



ENABLING LOCAL SUCCESS: A Primer on Mainstreaming Local Ecosystem-Based Solutions to Poverty-Environment Challenges



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A Primer on Mainstreaming
Local Ecosystem-Based Solutions
to Poverty-Environment Challenges**

The Poverty-Environment Initiative (PEI) of the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP) is a global UN-led programme that supports country-led efforts to mainstream poverty-environment linkages into national development planning. The PEI provides financial and technical assistance to government partners to set up institutional and capacity strengthening programmes and carry out activities to address the particular poverty-environment context.

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Preface

The Poverty-Environment Initiative (PEI) is a joint programme of the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP) to provide financial and technical support to countries to build capacity for mainstreaming poverty-environment linkages into national development planning processes. The PEI is supported by the governments of Belgium, Denmark, Ireland, Norway, Spain, Sweden and the United Kingdom, the US Department of State and by the European Commission. A major element of PEI country work is to help practitioners in “making the case” for integrating environmental management into national development plans, budgets and implementation programmes—using the argument that better environmental management contributes to poverty reduction, pro-poor growth and government finances.

This primer assembles current knowledge and illustrative case materials on the benefits of and enabling conditions for local ecosystem-based initiatives. It documents how nature-focused activities and enterprises, originated and executed by local actors, can sustain ecosystems and improve the livelihoods and well-being of the rural poor. The primer is designed to help PEI practitioners and others engaged in the mainstreaming challenge communicate to policy makers the positive poverty and environmental outcomes that can result at the local level when environmental mainstreaming efforts at the national and sectoral levels succeed.

The primer has been prepared as part of a strategic partnership between the World Resources Institute (WRI) and PEI. Through the partnership, WRI and PEI collaborate on providing expertise, analysis and tools, and undertaking global-level knowledge management and outreach activities, to support the scale-up of country poverty-environment mainstreaming efforts. The Primer also contributes to and builds on UNDP’s *Local Capacity Strategy: Enabling Action for the Environment and Sustainable Development*. We are grateful to Peter Hazlewood (Director, Ecosystems and Development) and Gregory Mock (Consultant, Poverty and Environment) of WRI for preparing this primer. We also thank the various members of the UNDP-UNEP PEI team who have contributed to its preparation, including Sophie de Coninck, Alex Forbes, Ronald Kaggwa, Monica Lopez, Angela Lusigi, Henrike Peichert, Jean-Jacob Sahou, Sanath Ranawana and Samson Wasao.

The primer is meant to be a working document and to be tested at the country level, with a view of getting feedback from country practitioners and improving its content. Any comments or enquiries should be directed to:

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1. Introduction to the Primer

1.1 Local Ecosystem-Based Solutions to Poverty-Environment Challenges

The Poverty-Environment Initiative (PEI) supports country-led programmes to mainstream the environmental concerns of poor and vulnerable groups into development planning and implementation processes at national, sectoral and subnational levels. PEI recognizes that a central goal of mainstreaming is to improve poverty-environment outcomes at the local level—that is, to improve the livelihoods, health, security and empowerment of people living in poverty through sound and equitable environmental management. This Primer on *Enabling Local Success* takes as its premise that local actors are the key drivers of change at the local level, and the success of poverty-environment mainstreaming efforts will be determined to a significant extent by their effectiveness in empowering local organizations to build and spread local solutions to poverty and environment challenges.

The changing rural landscape

The Primer focuses on the critical linkages between ecosystems and the livelihoods and well-being of the poor, primarily the rural poor. For example, small-scale farming, fishing, herding, logging, collection of medicinals and other productive activities based on ecosystem services typically account for a substantial portion of the total (cash and subsistence) income stream of poor rural families (WRI 2005).

The plight of rural families that depend on natural resources for their livelihoods is characterized by both urgency and opportunity. In 2005, the Millennium Ecosystem Assessment found that of the 24 ecosystem services it assessed, 15 were in global decline. This decline—exacerbated now by climate change—marks a major increase in the vulnerability of the poor. But rural communities today face more than environmental change. A variety of social and economic challenges are creating conditions of increasing uncertainty, risk and insecurity across the rural landscape. These include a profound restructuring of local economies with globalization, the intensification of agriculture and rapid development of land and resource markets. At the same time, local institutions are challenged by out-migration and changes in traditional patterns of governance and land ownership that can increase social instability.

On the other hand, there has never been greater opportunity to pursue local solutions to these challenges. There is renewed attention and growing support among development practitioners for community-based approaches, particularly as a route to achieving the Millennium Development Goals (MDGs) and developing greater resilience to the impacts of climate change. Globalization brings new market opportunities (and challenges) to long-isolated rural communities, such as ecotourism and trade in specialized products and commodities, and new communication technologies make it easier to provide local access to information and to share local approaches and best practices among community groups.

Local ecosystem-based initiatives

Local ecosystem-based initiatives—a set of activities undertaken by a local group to generate a sustained stream of benefits from one or more ecosystem services (Box 1)—offer a new paradigm for rural development centered on building the rural “green economy.” More than two decades of experience with local ecosystem-based initiatives have demonstrated their potential to generate a mix of economic, social and environmental benefits that can expand the poor’s opportunities and capacity to move out of poverty, and can help build the kind of resilience rural communities need to meet not just the climate threat, but the array of challenges they face.

Under the right conditions, properly structured ecosystem-based initiatives can increase the income stream from nature while sustaining and restoring the natural resource base. A variety of other development benefits can result, such as increased technical and business capacities, greater social cohesion, political empowerment and greater integration into mainstream economic activity. Importantly, new research shows that local initiatives to manage and market ecosystem assets sustainably can also help poor rural families strengthen the resilience of their resource base and livelihoods in the face of changing weather patterns and market conditions associated with climate change. Thus, ecosystem-

Box 1 Ecosystem Services

Ecosystem services are the benefits that people get from nature. The Millennium Ecosystem Assessment defined four categories of ecosystem services:

Provisioning services: the goods or products obtained from ecosystems, e.g.

- *Food*
- *Fiber*
- *Biomass fuel*
- *Fresh water*
- *Bio-chemicals*
- *Genetic resources*

Regulating services: the benefits from regulation of ecosystem processes, e.g.

- *Climate regulation*
- *Disease regulation*
- *Pest regulation*
- *Water regulation*
- *Water purification*
- *Pollination*

Cultural services: non-material benefits from ecosystems, e.g.

- *Spiritual, religious and aesthetic*
- *Recreation and ecotourism*
- *Educational*
- *Sense of place*
- *Cultural heritage*

Supporting services: services necessary for production of all other ecosystem services, e.g.

- *Soil formation*
- *Nutrient cycling*
- *Primary production*
- *Photosynthesis*
- *Water cycling*

Source: MA 2005.

based initiatives could play a significant role in meeting the growing need for community-based climate adaptation.

Ecosystem-based initiatives that originate and are controlled locally tend to confer the greatest benefit on the poor. Since they grow out of local demand, they are more likely to spur the interest and continuing commitment that such initiatives require to be successful. In addition, they are led by local organizations drawn from community members, and are thus in tune with local values, knowledge and practices.

1.2 The 'Scaling Up' Challenge

To date, most successful initiatives have functioned in isolation. Though they have received a good deal of attention as alternative models, they remain outside the mainstream of development planning, and so have not yet altered the traditional model for rural economic growth and development. Yet, in some locations, ecosystem-based initiatives have attained sufficient scale to demonstrate their transformative potential (WRI et al. 2008):

- In arid western **India**, hundreds of community-led watershed restoration initiatives have replenished water tables, boosted crop production and raised village incomes. The Watershed Organisation Trust, an NGO in Maharashtra state, has facilitated watershed initiatives in over 475 villages, affecting more than 400,000 hectares of degraded land and benefiting more than 650,000 people. The work has been so successful that the Government of India has established a National Watershed Development Fund to help spread watershed initiatives to villages in some of the poorest dryland districts in the country (WRI et al. 2008).
- In **Namibia**, community conservancies formed by local residents on public domain lands have used their newly granted authority to manage local wildlife for their tourism and trophy hunting value. Poaching has dropped markedly on the conservancies, causing wildlife populations to rebound. In 2006, income for the country's 50 conservancies from lodging, hunting fees, guide services, and other related tourist services reached over \$20 million and continues to rise, creating the basis for a new rural economy in an area that used to depend on low-margin agriculture and livestock rearing. The conservancy model has been so attractive that community-driven conservancies now cover over 14 percent of the nation's area (WRI et al. 2008).
- In northern **Bangladesh**, the government granted 110 villages in three wetland watersheds the exclusive right to manage and fish their local inland fisheries. Local fishers adopted more sustainable fishing activities and restored fish habitat in local lakes as well as shoreline vegetation. As fish stocks recovered, fish catches rose 140 percent and household incomes 30 percent in the affected villages. Impressed by this success, the Department of Fisheries introduced the fishery management practices from these villages into villages in 10 additional watersheds (WRI et al. 2008).

These examples show that, when ecosystem-based initiatives attain scale, they can bring landscape-level change to ecosystems and begin to reshape local economies. Scaling up involves both increasing the total number of local ecosystem-based initiatives and increasing the size and efficacy of individual initiatives, with the aim of reaching a greater number of communities so that their aggregate benefits can begin to transform the rural poverty

dynamic. It also includes political scaling through the creation of federations that expand the visibility, influence and market power of local initiatives (WRI et al. 2008).

Despite their potential, local ecosystem-based initiatives are not a magic bullet. While this primer focuses on the potential strengths and benefits of these efforts, it is essential to appreciate their limitations and the significant barriers they often face. In some communities, social divisions and inequalities in resource ownership may be too great to overcome, preventing the kind of collective action necessary for success; pursuing a community initiative in such a situation may simply exacerbate existing inequities. In others, the benefits produced may be insufficient to justify the effort or to attract sufficient support to get the effort off the ground or to sustain it. In still others, tenure insecurity may be so great that the initiative has little chance for long-term survival. Nonetheless, where conditions are favorable—or can be made so—local ecosystem-based initiatives offer an approach with considerable scope for addressing poverty-environment challenges in the rural landscape.

1.3 About the Primer

Purpose

This primer showcases current knowledge and illustrative case materials on the benefits of and enabling conditions for local ecosystem-based initiatives in rural communities. The primer is intended as a resource to help PEI practitioners communicate to policy makers the positive poverty and environmental outcomes that can result when environmental mainstreaming efforts at national and sectoral levels succeed—and are informed by and support local ecosystem-based solutions.

However, determining how best to support such local solutions within the broader framework of poverty-environment mainstreaming is challenging. It requires a clear understanding of how these initiatives vary by community and by ecosystem, as well as the factors that underpin their success. Thus, the primer is also intended to help government and non-governmental practitioners evaluate the potential for successful initiatives in specific landscapes and to identify the policies, resources and capacities needed to enable success. *Ultimately, the primer is meant as a basic tool that can help national and local officials to better focus poverty-environment mainstreaming efforts on scaling up the multiple benefits that local ecosystem-based initiatives can produce.*

In addition, the primer may be useful as a reference and starting point for local groups considering ecosystem-based initiatives. It may also serve as a reminder of the impressive reservoir of experience with ecosystem-based initiatives that already resides in many communities, and the potential that exists for learning and sharing knowledge and best practices to inform local development planning (e.g. District Development Plans) and promote replication and scale up.

Organization

The remainder of the primer is divided into three main parts:

- Section 2 on *Envisioning Local Ecosystem-Based Solutions* explores how local ecosystem-based initiatives are structured and the multiple economic, social and environmental benefits they can offer, including strengthening local resilience to the impacts of climate change.
- Section 3 on *Enabling Conditions for Local Ecosystem-Based Solutions* reviews key ingredients and enabling conditions for local ecosystem-based initiatives to succeed.
- Section 4 on *Mainstreaming Local Ecosystem-Based Solutions* focuses on the need for and elements of a ‘programmatic approach’ to mainstreaming local ecosystem-based initiatives in development planning, in order to bring about the enabling conditions described in Section 3 and improve poverty-environment outcomes.

The primer also includes a set of related *Diagnostics for Local Ecosystem-Based Solutions* in an Appendix that can be used to help assess the degree to which the enabling (or disabling) conditions described in Section 3 are present, and to help identify where support could be focused to improve an initiative’s chances for success.

This type of assessment can inform the design of a programmatic approach for supporting and scaling up local ecosystem-based initiatives addressed in Section 4, in conjunction with other assessments carried out as part of a PEI country poverty-environment mainstreaming programme¹—in particular multiscale integrated ecosystem assessments (Ash et al. 2010).

1. See the PEI publication *Mainstreaming Poverty-Environment Linkages into Development Planning: A Handbook for Practitioners* (UNDP-UNEP PEI 2009).



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2. Envisioning Local Ecosystem-Based Solutions

Coverage

- Defines key features of local ecosystem-based initiatives.
- Analyzes the potential benefits that can accrue from successfully mainstreaming and scaling up local ecosystem-based initiatives.
- Provides three more detailed case examples that illustrate these features and benefits.

Key Points

- A *local ecosystem-based initiative* can be defined as a set of activities undertaken by a local group to generate a sustained stream of benefits from one or more ecosystem services.
- Local ecosystem-based initiatives are *community-driven*, involving collective action by community members, and are grounded in the action of *local organizations*—from resource user and self-help groups to local NGOs to local government bodies.
- Local ecosystem-based initiatives can generate a *variety of benefits*, often simultaneously.
- *Economic benefits* generally take the form of either increased cash income (from sales of ecosystem products or services, or from employment associated with the initiative) or subsistence income (food, forage or materials consumed directly to support daily needs).
- *Social benefits* include personal empowerment and increased social mobility associated with greater income potential and the acquisition of new skills. They also include group benefits such as an increase in social capital among initiative members and greater inclusiveness.
- *Environmental benefits* include increased ecosystem productivity and stability, restoration of ecosystem functions diminished by earlier unsustainable practices and carbon storage, among others.
- The combined benefits of local ecosystem-based initiatives can increase community members' *resilience and capacity to adapt* to the varied economic, social and environmental challenges they face—including growing impacts from climate change.
- The *timing of benefits* is key— in general, successful initiatives try to assure some short-term benefits to reinforce early interest in the initiative, but concentrate on generating an increasing stream of long-term benefits that can sustain and grow the initiative over time.

What does a successful local ecosystem-based initiative look like and what benefits can it bring?

- In **Bolivia**, it looks like the Chalalan Ecolodge. Perched on the edge of the Chalalan lagoon on the outskirts of the 200,000-hectare Madidi Park, the lodge is owned and managed exclusively by the indigenous Quechua-Tacana community. The lodge, which is built of native materials and emphasizes sustainable practices and minimal impact, was begun by the community in 1992 as a response to the threat of deforestation in the adjacent rainforest and a lack of employment that was forcing families to migrate to the city. Benefits from the lodge include income from employment at the facility and the provision of ancillary services such as transport or growing food to serve at the lodge. Profits from the award-winning enterprise have funded community infrastructure projects for drinking water and sanitation, as well as education and health services. Success of the lodge has provided an alternative to destructive environmental practices, leading to a resurgence of local wildlife. As a result of its work and advocacy, the community also has obtained formal title to its lands—a critical benefit that will help ensure the sustainability of the enterprise (Chalalan Ecolodge 2010; UNDP 2010a).
- In **Papua New Guinea**, success looks like the Sepik Wetlands Management Initiative (SWMI). Operating in the distinctive wetlands around the middle and upper Sepik River, SWMI advances integrated community-driven conservation and development activities over a 1.5 million hectare area, the majority of which is under customary land ownership. The group sustainably harvests crocodile eggs, skins and live young to generate a much-needed income alternative to subsistence farming and hunting. Participatory rural appraisals, including the mapping of crocodile nesting habitats, are conducted to better understand the composition and use of the wetlands. Harvesting agreements have been established with local people to ensure sustainability and allow for crocodile habitat protection and population regeneration. The result has been a significant increase in both local incomes and saltwater crocodile populations. As with Chalalan, revenues have been reinvested in local education, health and community infrastructure projects, as well as small-scale business start-ups and conservation projects (UNDP 2010g; UNDP 2010h).

2.1 Key Features of Local Ecosystem-Based Initiatives

As these examples illustrate, a local ecosystem-based initiative can be defined as *a set of activities undertaken by a local group to generate a sustained stream of benefits from one or more ecosystem services*. To be considered “local” an ecosystem-based initiative must have the following characteristics:

- **Local origin.** Activities originate locally or are consciously patterned after examples from other communities or organizations.
- **Local action.** Activities are executed locally by local actors (although they may be supported by outside actors or organizations).
- **Local institution.** A local organization is involved in the planning, management and execution of the activity.
- **Local benefits.** Substantial benefits accrue to local actors, although regional, national and global benefits may be generated as well

An example would be a community group that designs, adopts and carries out a management plan for a community forest, producing a mixture of salable timber, fuelwood, forage and medicinal plants while maintaining the tree canopy, with the economic benefits shared among community members. Similarly, a local fishers cooperative may adopt a set of harvest rules for its members restricting the timing and quantity of the local fish catch and placing nursery areas off-limits in order to maintain healthy fish stocks. Box 2 depicts the different components of a typical initiative.

Ecosystem-based initiatives involve collective action, where members of the initiative work together to sustainably manage the ecosystem. In this sense, most ecosystem-based initiatives involve some form of community-based natural resource management. Often, this group action also involves jointly running a commercial enterprise to market the ecosystem good or service that results from this shared management (WRI et al. 2008).

While most ecosystem-based initiatives focus on a single group managing an ecosystem for a single purpose, some initiatives are more broadly based and involve several groups and many different activities—some that produce income and others that focus on community education or other capacity-building efforts. For example, the Nguna-Pele Marine Protected Area in Vanuatu is a joint initiative involving sixteen villages on two islands. The

Box 2 Components of a Local Ecosystem-Based Initiative

Group/membership

- Local people who undertake the initiative and reap its benefits—e.g. villagers; tribal members; local resource users such as fishers, woodcutters, wild plant collectors.

Institution/executive

- Decision-making body that makes ecosystem management and business decisions—e.g. forest user group; watershed committee; grazing council; fishery management council.

Targeted ecosystem service

- Ecosystem good or service that the initiative wants to manage to produce a group benefit (through sale or direct use)—e.g. production of timber, fish, forage, cattle, non-timber forest products or herbs; water collection and purification; scenic beauty and wildlife for tourism.

Management activity

- Actions that the group takes to restore, enhance or sustain a targeted ecosystem service—e.g. reforestation; sustainable harvest practices; patrol and rule enforcement.

Benefit(s)

- Income, experiences, or opportunities that increase well-being—e.g. cash income; subsistence products like building materials, wild foods; social stability; ecosystem stability.

Enterprise

- Business activity to produce and market products or services in order to generate economic and social benefits—e.g. honey production; wild herb and medicinal plant collection; exotic timber production; commercial fishing; managing an ecotourism lodge.

Networks/linkages

- Connections with other initiatives and support organizations that advance or support the initiative's goals—e.g. producer associations; cooperatives; federations; learning networks.

group manages a network of locally designated protected areas that act as resource factories for the area's fishing and tourism trades. In addition, the group is involved in mariculture and community education efforts (Nguna-Pele 2010; UNDP 2010a).

The community-driven nature of an ecosystem-based initiative is one of its defining features. Successful initiatives arise from community needs and are propelled by community demand for benefits that are both substantial and under their own control rather than the control of outside forces (Shyamsundar et al. 2005; White and Runge 1995). In many cases, demand for an initiative arises from a precipitating event, such as a noticeable decline in the condition of local ecosystem productivity, the threat of exploitation of local resources by outsiders, or a new market opportunity such as ecotourism (WRI et al. 2008).

The variety of local ecosystem-based initiatives

Local ecosystem-based initiatives can be quite diverse. They occur in different natural resource systems, draw upon different ecosystem services, involve local groups of different size, composition and governance, and strive for different benefits. Many are small business enterprises focused on generating income from the sale of nature-based goods and services such as coffee, medicinals or tourist experiences. For example, Finca Esperanza Verde in Nicaragua is a 106-hectare organic farm run by a cooperative with 32 farmers producing Fair Trade coffee for export (FEV 2010); likewise, at its production facility in Burkina Faso, Songtaab-Yalgre Association processes shea nuts collected by local women for use in the international cosmetics market (ASY 2010). Other initiatives focus not on a single business, but on facilitating better management or more equitable access to a particular natural resource used by the community. In the Prad Nai Community Forest in Thailand, community members have created a management plan for the local mangrove swamp that prohibits mangrove cutting and limits crab and shellfish harvesting in order to restore and enhance the mangrove fishery (UNDP 2010d).

The level of outside support also influences the structure and activities of initiatives. Outside actors such as NGOs, universities, donors or government agencies often play a constructive role as catalysts, partners and providers of support services such as training, technical advice or networking with other community groups involved in similar efforts. Some initiatives benefit from substantial direction and support from government or international agencies. In the Gokulpura-Goverdhanpura Integrated Watershed Management initiative in Rajasthan, India, a consortium of government agencies, international donors and NGOs helped the community undertake rainwater harvesting, improve their irrigation, plant trees and adjust their crops to increase water availability and improve watershed conditions (ICRISAT 2007). However, many initiatives are much more local affairs with little external support and funding, such as many of the community forest user groups in rural Nepal that rely on their own resources to collect and market non-timber forest products on state-owned land.

Given the great variety of ecosystem initiatives, it is useful to sort them into types or categories that account for the main similarities and differences among them. Box 3 outlines three primary determinants to categorize initiatives.

Box 3 Classifying Local Ecosystem-Based Initiatives

Resource use

- Sorting by ecosystem or resource use—such as forest management, marine or freshwater fishery management, commercial or organic agriculture, grassland management or wildlife-focused ecotourism—is the most straightforward means of categorizing initiatives. Initiatives based on similar resource uses will presumably share many of the same technical and marketing challenges, as well as tenure issues. For example, forest-based initiatives will face the challenge of extracting and marketing commercially valuable species—whether timber species or non-timber forest products such as rattan—without degrading forest quality. They may share the experience of negotiating joint forest management agreements with state agencies, and they may face similar challenges coping with illegal forest encroachment and timber theft.

Initiative size

- For the purpose of classification, initiatives can be divided into three groups: 0-20 people = small initiative; 21-100 people = medium initiative; >100 people = large initiative. The number of people involved in the initiative will determine many of its important features, such as the amount of physical disturbance of the ecosystem, the size of the commercial venture involved (which in turn determines the need for business skills training and the magnitude of the financing required) and the governance of the initiative (who will administer the operation and what form the participation of group members will take).

Tenure security

- With regard to the security of property and resource rights, initiatives fall into three basic groups: those with secure resource tenure, those with partially secure tenure and those with insecure tenure. Among the many governance factors determining the long-term success of ecosystem-based initiatives, security of resource tenure is the most important. Without some degree of confidence that the investments that the initiative makes in ecosystem management are secure, there is little incentive to fully commit to the venture.

The role of local organizations

Local ecosystem-based initiatives are grounded in the action of local organizations—ranging from resource user groups and business groups, to self help groups, to local government bodies. Groups such as watershed committees, forest user groups and village councils provide the institutional structure for local ecosystem-based initiatives and the resource rights and management authority devolved from the state. But other local groups are equally important to the success of local initiatives. Some, like local NGOs, unions or government extension offices, provide training and organizational support. Others, such as producer cooperatives or local business consortia, help ecosystem enterprises produce a high-quality product or gain access to markets. Still others, like self-help groups or savings groups, help marginalized groups organize and empower themselves to join an ecosystem-based initiative or start their own initiative (Alsop and Kurey 2005; Marsh 2003; Uphoff 1992; Uphoff and Buck 2006; World Bank 1996).

Local organizations have many qualities that make them effective in local settings. But they also face significant challenges as well. Box 4 profiles some of these strengths and limitations.

Past experience shows that one of the most serious failings of efforts to promote community-driven development has been to pay too little attention to the needs of local organizations for capacity building and continuing support as these groups slowly mature and develop their institutional capabilities, technical skills and connections (WRI et al. 2008; World Bank 1996).

Box 4 Strengths and Limitations of Local Organizations

Strengths

- Local organizations tend to be limited in size and embedded in the community social order, with a true local perspective and trust as an important driver in their activities.
- They are familiar with local resource management practices and challenges, and can create incentives for collective action that national or international organizations cannot.
- Since they reflect the social norms and work ethic of the community, they often can command compliance with ecosystem management rules through social pressure.
- Savings groups, resource user groups and other informal organizations can provide a safety net in times of need and an avenue for the poor to achieve social mobility.
- Local NGOs often provide key services to help strengthen and connect other local organizations, bringing new information, management and skills training.

Limitations

- Many local organizations lack essential skills and business experience required for a viable enterprise, and may be unfamiliar with participatory methods for planning, making joint decisions and encouraging “ownership” of the group’s activities by its members.
- Most local organizations are perennially short of funds, limiting the activities they can undertake. They often lack influential contacts within government or the private sector that could advocate for their work, connect them to government support programs or intervene when they face regulatory obstacles.
- Many groups, particularly informal ones, may not stress participation or democratic processes like elections, and therefore may lack strong accountability to their members.
- The social structure in many rural villages—and local organizations—remains hierarchical and traditional, and thus not very inclusive of women, the poor or other marginalized groups. A lack of formal participatory processes often compounds the problem.

2.2 Economic, Social and Environmental Benefits

Local ecosystem-based initiatives can generate a wide variety of economic, social, and environmental benefits, often simultaneously (Shyamsundar et al. 2005; WRI et al. 2008). All three are interdependent, with economic and social benefits often directly dependent on generating environmental benefits through sound management practices. For members, the benefits stream is the driving force behind the initiative’s formation and members’ continued involvement. For governments and initiative supporters, the benefits stream—and how it changes over time—are measures of the initiative’s success and its potential for scaling up.

The precise menu of benefits delivered, their quantity and the array of individuals who receive them are all important aspects of the benefits stream. The timing of benefits is one of the prime determinants of whether an initiative will succeed. Benefit streams change over time, as not all benefits appear on the same schedule or persist for the same period of time. Short-term benefits that appear early in the life of an initiative can provide a critical incentive—an early payoff—to persist in the ecosystem management plan agreed upon by initiative members. Medium and long-term benefits may be more significant in quantity and value than short-term benefits but require more investment in planning, training, materials, labor and, by definition, greater patience. In general, successful initiatives try to assure some short-term benefits to reinforce early interest in the initiative, but concentrate

on generating an increasing stream of long-term benefits that can sustain and grow the initiative over time.

Economic benefits

Creating or increasing the economic benefits of a managed ecosystem service is usually of paramount importance to a local ecosystem-based initiative (Box 5). Such benefits usually take the form of either cash or subsistence income. While cash income is increasingly important in rural economies, subsistence income—the direct collection and use of food, fodder, and materials that would otherwise have to be purchased—is still a critical component of the household economies of poor families. An increase in subsistence income may be one of the principal benefits of an initiative, particularly in its initial stages before other components of the benefits stream mature (Morris 2002; Shyamsundar et al. 2005; WRI et al. 2005; WRI et al. 2008).

Initiatives may create other types of value through successful ecosystem management or associated business activities. These include the growth or appreciation of ecosystem assets, such as an increase in the amount or quality of merchantable timber or non-timber forest products as over-harvesting diminishes. It also includes the opening of new markets for ecosystem products or services, or greater access to existing markets as the initiative improves its product quality or marketing skill, or begins to produce niche products like organic food or timber certified as sustainably grown (WRI et al. 2008).

Box 5 Economic Benefits of Local Ecosystem-Based Initiatives

Cash income

- Cash from sales of products or services marketed by the initiative and from employment associated with ecosystem management or an associated enterprise.

Subsistence income

- Food, forage, or materials consumed directly to support daily needs.

Increase in asset value

- Increase in the productivity or value of land or ecosystem services due to restoration or recovery.

Social benefits

For poor or marginalized households, the social benefits of an initiative may be just as important as its economic benefits. Social benefits include meeting the individual needs of initiative members for social acceptance, social mobility and empowerment (Box 6). The chance for social acceptance and social mobility is particularly significant for those previously held back by their economic or gender status, while personal and political empowerment are known to be key components of personal well-being. Significant group benefits accrue as well, related to the building of social capital among initiative members and an increase in the group's inclusiveness and equity. These social benefits contribute to a “virtuous cycle” that enables the group to work together more effectively as time goes on to accomplish the initiative's goals and increase the benefits stream (Involve 2005; Morris 2002; Shyamsundar et al. 2005; WRI et al. 2005).

Box 6 Social Benefits of Local Ecosystem-Based Initiatives

Social acceptance and mobility

- Acceptance into a group, with the ability to rise in social standing, take on new roles and responsibilities, and gain greater access to social and economic benefits.

Empowerment

- Increase in self-esteem associated with greater social access and income potential.
- Increase in links or influence with political, government agency or business decision-makers.
- Increase in marketable skills.

Increased social capital and ability to undertake collective action

- An increase in the bonds of trust and shared values within the group.
- The ability to act together in pursuit of common goals.

Greater inclusiveness and equity

- Greater acceptance of members without reference to their economic or social status, as well as greater equality in the sharing of costs and benefits.

Environmental benefits

Most of the economic benefits of initiatives depend on the environmental benefits that come from managing the ecosystem sustainably (Box 7). When ecosystems are allowed to recover through a transition to more biologically sustainable harvest practices or agricultural techniques their productivity often increases and the biological stability of the system improves, increasing the output of the ecosystem goods and services that provide income and other economic benefits. While most of these benefits are targeted to initiative members, initiatives also produce global benefits—public goods that reach beyond the immediate membership. These range from an improved local economy due to the multiplier effect associated with a commercially successful enterprise, to greater social cohesion as initiative members share their sense of empowerment with nonmembers, to greater ecosystem stability and resilience, which may benefit other community members who use the services provided by these ecosystems (Shyamsundar et al. 2005; WRI et al. 2005; WRI et al. 2008).

2.3 Resilience and Adaptation Benefits

Resilience is the ability to handle stresses or recover from disturbances or shocks. In the most positive sense, it is the ability to thrive in the face of challenge. When executed successfully, one of the most significant benefits that a local ecosystem-based initiative can bring is greater resilience to the challenges that rural communities face (WRI et al. 2008). The resilience associated with ecosystem initiatives cuts across the three main benefit categories: economic resilience, social resilience and ecological resilience (Box 8).

In the same way that ecosystem-based initiatives act to increase a community's resilience, they can also foster a community's ability to adapt to climate impacts. In the Philippine province of Northern Samar, some 250 subsistence fishing families have entered into a co-management arrangement with the government to restore 40 hectares of local mangrove forests that had been converted to fish ponds. The effort involves developing a crab aqua-

Box 7 Environmental Benefits of Local Ecosystem-Based Initiatives

Increased ecosystem stability and resilience

- Reduced vulnerability to precipitous declines in the production of ecosystem services, and greater ability to accommodate biological challenges such as pest attacks or climate impacts such as reduced rainfall.

Maintenance of natural habitat and biodiversity

- Enables the survival of robust populations of plant and animal species essential to ecosystem functioning or to the benefits stream; broadens the number and genetic diversity of species present, increasing the range of possible ecosystem benefits.

Forests: improved forest condition and increased carbon storage

- Increased forest cover; reduced deforestation; and reduced incidence of forest fires.

Watersheds: improved watershed conditions

- Increased water flows; increased water quality; decreased flooding and erosion.

Agroecosystems: increased soil fertility, better soil condition, and increased carbon storage

- Increased soil organic matter and moisture; decreased soil erosion, salinization and waterlogging.

Fisheries: healthier fish stocks

- Larger fish stocks with better age class distribution; increased recruitment of juveniles through protection of breeding and nursery areas.

Grasslands: healthier rangeland conditions and increased carbon storage

- Increased forage and improved rangeland conditions; greater carbon storage in range soils.

culture industry in the restored mangrove areas with technical and marketing assistance from a local NGO and government officials, and strengthening local fishermen's associations to increase their bargaining power. The combined restoration and business activities have doubled the income of participating fishing households, connected them to growing urban seafood markets, and restored the mangrove buffer protecting the coastal community from storms and other extreme climate events.

Local ecosystem-based initiatives are an effective gateway to climate change adaptation for several reasons. Successful community-based initiatives depend heavily on their learning skills, and learning is central to adaptation over time. Indeed, successful adaptation is not about avoiding change, but about gaining the tools to reorganize and thrive when change is inevitable (Folke et al. 2002; Walker et al. 2006).

One critical tool is information. Uncertainty about the magnitude of climate risks and the costs and effectiveness of different adaptation actions are common obstacles for rural inhabitants. Local ecosystem initiatives provide much greater access to information on the climate effects that are likely in a given location, on the technology and institutional options available to respond to these effects, and on the adaptation efforts of others—successful or not—than individuals would have on their own (AIACC 2007; Thomas et al. 2005).

Just as importantly, ecosystem initiatives also catalyze a process of social learning and collective action. The willingness to collectively manage natural resources or undertake other joint adaptation efforts is an essential component of adaptation in rural communities

Box 8 Resilience Benefits of Local Ecosystem-Based Initiatives

Economic resilience

- Economic resilience is the ability to recover from adverse economic conditions or economic shocks. It encompasses having a variety of economic options available if a particular economic activity fails, or being able to create more options if necessary. It benefits from being able to call on a wide variety of skill sets and contacts. Local ecosystem-based initiatives build such skill sets and are often configured into commercial enterprises that increase the job options and broaden the local economy in which they occur, allowing greater income diversification. The networks and contacts that develop around successful initiatives help to ease rural isolation and provide avenues for new opportunities to grow (Briguglio et al. 2005; WRI et al. 2008).

Social resilience

- Social resilience is the ability to face internal or external crises and effectively resolve them. In the best cases it may allow groups to not simply resolve crises, but also learn from them and be strengthened by them. It implies an ability to cohere as a community and to solve problems together in spite of differences within the community (Brenson-Lazan 2003; Sapirstein 2006). Local ecosystem-based initiatives build social resilience because the cooperation and communication skills they demand build the group's functional social capital. In addition, the institutions built to carry out the initiative are community-based and responsive to the initiative's clientele. In time, these home-grown institutions give the group stability and an ability—both formal and informal—to help the group resolve conflicts (Glenzer 2008; WRI et al. 2008).

Ecological resilience

- Ecological resilience is the level of disturbance that an ecosystem can absorb without crossing a threshold to a different, and usually less productive, ecosystem structure or state. The disturbance may be natural, like a storm, or human-caused, like deforestation, pollution or climate change (Folke et al. 2002; Walker et al. 2006). Prudent ecosystem management in the form of sustainable harvest, tillage and water use practices is the key to increasing ecological resilience. For example, conservation tillage, agroforestry, organic agriculture and the use of hedges and vegetative buffer strips can all help stabilize soil structure, reducing erosion and increasing soil organic matter. In forests, retaining plant diversity can stabilize the ecosystem, making it less vulnerable to extreme weather events and pest damage. Establishing no-fishing zones and protecting nursery areas can improve recruitment of young fish and increase fish catches. These are just the kinds of activities that ecosystem-based initiatives use to restore, sustain and increase the productivity of their local ecosystem assets (WRI et al. 2008).

where the dependence on nature-based livelihoods is high. In communities in South Africa and Mozambique, for example, poor families have adapted to altered rainfall patterns by starting collective horticulture, poultry raising and maize production projects where previously families had mostly worked alone. Ecosystem initiatives offer conditions where community members can share the risks of trying new approaches rather than try to adapt on their own. In this sense, they are laboratories for adaptation, and can greatly magnify and spread the effects of successful adaptation activities (Thomas et al. 2005).



Case Example 1 Yawanawa Agro-extractive Cooperative – Brazil

OVERVIEW

When the Brazilian Government stopped buying rubber from the Amazon in 1992, it left the Yawanawa, an indigenous community of subsistence farmers and rubber tappers living deep in the Amazon rainforest, without a viable cash income. In 1993, the Yawanawa forged a commercial partnership with Aveda Corporation to grow and process the urukum fruit—a traditional forest product—for use in Aveda’s internationally marketed line of organic cosmetics. Aveda helped the Yawanawa establish a urukum plantation and agreed to buy the processed urukum pigment as a coloring agent for its cosmetics. The Yawanawa have traditionally used the red-orange urukum pigment gathered from the forest to create ceremonial designs on their bodies.

In 2003, under a new chief, the Yawanawa established the Cooperativa Agro-extrativista Yawanawa (COOPYAWA) to expand the community’s commercial and social activities. They expanded their arrangement with Aveda to include a license to use the unique Yawanawa art designs in the company’s advertising. The COOPYAWA also branched into other projects, including processing andiroba oil, another forest product used as a skin treatment and insect repellent. The COOPYAWA has also been active in promoting Yawanawa culture through a Yawanawa “branding project.” Elements of this project include launching a line of clothes with traditional Yawanawa drawings and paintings, conducting a series of art workshops profiling the art of Yawanawa women, and recording traditional folk songs. A project to enhance food security involves building three fish hatcheries to cultivate and increase native fish populations in the river.

The combined benefits of these activities has been the development of a sustainable income stream that is fully compatible with traditional Yawanawa practices, that does not involve destructive forest use, and that has the practical effect of sustaining both the Yawanawa culture and the Yawanawa’s lands. The success of these projects emboldened the Yawanawa to petition the Brazilian government in 2004 to enlarge its lands to better reflect its traditional territory. This has resulted in an increase in the secured lands of the Yawanawa from 93,000 hectares previously to 187,000 hectares today.

KEY FEATURES	
Initiative type:	Community forest management; large size; secure resource tenure.
Site:	Urukum harvesting takes place on a 16-hectare plantation near the main Yawanawa town, Novo Esperanza, in the State of Acre in western Brazil.
Membership:	Initiative covers over 600 Yawanawa community members.
Tenure status:	Initiative takes place within the 187,000-hectare tribal territory recognized and demarcated by the government of Brazil.
Institution:	The Cooperativa Agro-extrativista Yawanawa (COOPYAWA), established in 2003 to engage in sustainable social and economic development benefiting the Yawanawa community. The coop is presided over by an elected Board, and managed by a president, vice-president, treasurer, vice-treasurer and fiscal council.
Ecosystem services:	Production of tropical fruits and other non-timber forest products from the rainforest; maintenance of aesthetic, spiritual and cultural values that lie at the heart of Yawanawa culture.
Management activity:	Culture and harvest of urukum fruits and other forest products; protection of surrounding rainforest and waterways and regulation of hunting and fishing to maintain healthy populations.

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Case Example 1 Yawanawa Agro-extractive Cooperative – Brazil

Capacity building:	Coop members have developed the ability to culture, harvest, process and transport by river commercial quantities of urukum fruits.
Partners:	Aveda Corporation, British Rainforest Concern, Ministry of Environment (Govt. of Brazil), Acre State Government, Pro-Indigenous Commission of Acre.
BENEFITS	
Economic:	<p>Group income (the Yawanawa live communally) has risen substantially with the urukum contract with Aveda as well as a contract for the use of the Yawanawa image in Aveda advertising and other follow-on activities.</p> <p>The link with Aveda has led to development of a solar energy system in Nova Esperanza, better boat transport on the river and establishment of internet access sites (through a partnership with the Committee for Democratization of Informatics).</p>
Social:	<p>The partnership with Aveda has led to the development of a health clinic in Novo Esperanza. An additional partnership with British Rainforest Concern has enabled construction of 14 sanitation facilities in 6 other Yawanawa communities. The Yawanawa community now has access to twice-yearly health workshops in which their medical and dental needs are assessed. Construction of sanitation facilities has helped to address the incidence of diarrhea and guinea worm.</p> <p>The Aveda partnership (with the participation of the government of Acre) has resulted in the construction of a school where almost 400 Yawanawa children and adolescents study. Yawanawa youth are now educated by trained Yawanawa teachers in such subjects as indigenous, Brazilian and world history, and Portuguese and Yawanawa languages.</p> <p>Social empowerment and revitalization of Yawanawa culture has been a noted benefit of the community's partnership with Aveda and its subsequent branching out into other activities. The community has begun to market its art and clothing and to publish its music, and the Yawanawa have received several awards and much recognition for their efforts, leading to a resurgence of community interest in preserving and celebrating Yawanawa culture.</p>
Environmental:	Some 187,000 hectares of rainforest is now being managed primarily in its native state.
<i>Source: Aveda 2010; UNDP 2010e; UNDP 2010f; 4Real.com 2010.</i>	

Case Example 2 Chambok Community-Based Ecotourism Project – Cambodia

OVERVIEW

After three decades of civil strife, the rural residents of Kampong Speu province, west of Cambodia’s capitol Phnom Penh, had few economic options. Limited farm land and the threat of land mines made for a weak agricultural economy, forcing many to overexploit and degrade local forests through illegal logging, charcoal production, and hunting. A chronic lack of infrastructure stifled new businesses. The result was a local poverty rate of 66 percent and severe erosion of the natural resource base.

With help from a local environmental NGO, nine villages in the Commune of Chambok banded together to create an **ecotourism enterprise focused on the area’s remaining natural assets**. These included Kirirom National Park which borders the site, as well as a notable waterfall and wildlife habitat on Commune lands. Community demand for the ecotourism project built slowly, aided by environmental education and outreach from the NGO and visits by Commune members to other ecotourism sites in Cambodia and Thailand. Government officials supported the effort, realizing that creating new employment options was not only vital for poverty reduction, but was the best way to decrease pressures on the adjacent park. National park officials signed an agreement allowing villagers to manage a portion of the park directly accessible to the ecotourism facility as a “community conservation area.” They also participated with commune members in crafting a set of bylaws governing what activities would be permitted on the ecotourism site, ensuring continued government support for the enterprise.

Benefits have spread widely throughout the Chambok community, with a greatly enhanced sense of stewardship of local forest resources and empowerment over local economic options.

KEY FEATURES	
Initiative type:	Community forest management, large size, semi-secure resource tenure.
Site:	161 hectares of forest containing a well-known 40-meter waterfall and bat-roosting cave, located about 110 kilometers west of the Cambodian capitol of Phnom Penh.
Membership:	500 households in the 9 villages comprising Chambok Commune.
Tenure status:	60 percent of the site is controlled by the Chambok Commune. The Ministry of Environment granted the commune a 2-year renewable agreement for use of the remaining 40 percent located within Kirirom National Park.
Institution:	Chambok Community-Based Ecotourism Management Committee, a 13-member body elected by community members from the nine villages of the Chambok Commune, and two advisory positions—one reserved for a representative from the Commune Council and one for a representative from Kirirom National Park.
Ecosystem services:	Aesthetic values associated with the waterfall and unusual wildlife on the site; production of non-timber forest products.
Management activity:	Management of the site as a “community conservation area” for ecotourism, including enforcement of community bylaws regulating hunting, clearing and collection of forest products; creation and maintenance of ecotourism infrastructure, including a trail system, bridges and rest shelters, small housing units to accommodate overnight visitors, a restaurant, an Information Center and vending cottages.

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Case Example 2 Chambok Community-Based Ecotourism Project – Cambodia

Capacity building:	<p>Mlup Baitong, a local environmental NGO advising the community, arranged for technical training in ecotourism skills and business management, including tour guiding, first aid, computer skills, conversational English, and accounting and financial management. Site visits to other ecotourism facilities in Cambodia and Thailand were also arranged.</p> <p>Mlup Baitong assisted women in the Chambok Commune villages to form several Self-Help Groups, which have subsequently become sources of microfinance for a number of small businesses such as bike rental, and souvenir and food vending to visitors.</p>
Partners:	<p>Start-up costs for infrastructure development and project management from 2002-2009 totaled \$226,000, and were covered by grants from a number of donors, including Scottish Catholic International Aid Fund, Oxfam Great Britain, Keidanren Nature Conservation Fund, Asian Development Bank, Blacksmith Institute, Canada Fund and McKnight Foundation. The Cambodian government contributed to road building and land mine clearance.</p>
BENEFITS	
Economic:	<p>Total income generated by all tourism services exceeded \$10,000 in 2006. This includes wages for roughly 300 people providing one of the many services associated with the enterprise. Income beyond what is needed to pay these wages is saved in a Community Fund used to bankroll community infrastructure and support very poor families in the villages. One of the key uses of this fund has been to provide start-up loans for small businesses by community members, many of them undertaken by women. Commune members also have increased access to non-timber forest products on the site.</p>
Social:	<p>With higher wage income, food security has increased, with related health benefits. Commune members have embraced the ecotourism project as a multi-village effort, with a strong sense of joint ownership over the enterprise and the resource base.</p> <p>As a result of more local job opportunities, out-migration of young villagers to urban areas has declined significantly.</p> <p>The creation of women's self-help groups and the start-up of several small women-owned businesses have promoted greater gender balance in the Commune.</p>
Environmental:	<p>Community regulations on forest use, enforced by community forest patrols, have greatly reduced illegal logging, hunting and forest fires. Of particular note is the elimination of 72 charcoal kilns within the ecotourism site—kilns that had been the source of severe forest degradation. Villagers report that wild animal sightings have increased significantly as the forest has recovered.</p>
<p>Source: Moeurn et al. 2007; CCBEN 2010</p>	

Case Example 3 Itoh Community Grazers Common Initiative – Cameroon

OVERVIEW

Before this initiative, pastoralists and farmers in the Oku village area experienced frequent land use conflicts—cattle and goats sometimes invaded area farms and trampled crops, while farmers often encroached on forest and pasture lands used for grazing. In addition, both of these land uses were degrading the nearby Kilum Mountain forest. In the face of accelerating forest degradation, government authorities established six different communal grazing areas meant to relieve pressure on the forest.

The users of one of these six grazing reserves—the Itoh community—adopted a new approach to livestock grazing. With help from national and international partners, the group established a “living fence” around its communal grazing area, improved the diet of livestock by planting high-nutrition grasses, and adopted a rotational grazing system to restore the range. Initiative members have also planted some 30,000 trees in and around the site, some of them medicinal, others meant as sites for bee hives, and still others meant to provide vegetative cover for a water catchment area. A central feature of the initiative was the establishment of a permanent water source for livestock. The decision to extend access to this water source to the village, providing the first clean water supply to the school, health center and market, proved to be a crucial side-benefit that convinced townspeople to support the initiative.

Improved resource management practices have raised livestock-related income by increasing the amount of available livestock forage, improved protection of adjacent forest and watershed areas, and greatly reduced conflicts between pastoralists and farmers.

KEY FEATURES	
Initiative type:	Community grazing management; medium size; secure resource tenure.
Site:	140-hectare community grazing area adjacent to the Kilum mountain forest and Oku village, Cameroon.
Membership:	60 people belonging to two ethnic groups: the Mbororo, who immigrated to the area 30 years ago and are mostly pastoralists; and native towns people, who are mostly crop farmers.
Tenure status:	Common grazing area delineated and recognized by government and traditional authorities.
Institution:	ITOH Community Grazers Common Initiative Group, affiliated with the Kilum Mountain Cooperative Union.
Ecosystem services:	Grassland fodder production for livestock; forest production of fuelwood, medicinal plants and watershed services.
Management activity:	Application of a new grazing management regime within the community grazing area, including: construction of a “living fence” around the grazing area to prevent the escape of livestock; a rotational grazing system to reduce overgrazing; use of improved grass varieties; tree planting to provide additional fodder, food and medicines, and to enhance watershed services; the installation of water infrastructure for both human water supply and livestock water stations.

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Case Example 3 Itoh Community Grazers Common Initiative – Cameroon

Capacity building:	Technical training in pasture improvement, modern livestock production, tree nursery management, use of medicinal plants to treat livestock diseases and basic veterinary care techniques. Training provided by UN Development Programme in group dynamics, project management skills, good governance and participatory monitoring and evaluation.
Partners:	\$45,000 grant provided by the European Union to purchase materials and fund specialized tasks. Technical training provided by the Institute of Agricultural Research for Development and Ministry of Livestock. UN Development Programme provided project supervision and coordinated capacity development activities.
BENEFITS	
Economic:	Adoption of modern livestock handling methods and grazing management has improved livestock health and productivity. Increased income from livestock and other ancillary activities like the sale of grass seed and medicinal plants and the collection of honey have made a substantial difference in the household incomes of pastoralists and townspeople who own livestock.
Social:	Provision of safe drinking water associated with the initiative has decreased the incidence of waterborne diseases, which used to be widespread. Healthier and more productive livestock has improved nutrition. Availability of medicinal plants has increased treatment options. Higher income has helped cover school fees, increasing access to education. Establishment of the fenced livestock grazing area has nearly eliminated conflicts between pastoralists and farmers due to cattle incursions. Experience in group management and participatory techniques have resulted in a strong sense of shared goals and the benefits of collective action. Within the grazing group, women have been particularly empowered and now expect to own their own livestock, whereas before livestock were usually owned by men.
Environmental:	Better cattle management has reversed range degradation and reduced the impact of livestock grazing on the Kilum Mountain forest. Planting of trees has created a more varied and stable range/forest ecosystem, with improved watershed services such as erosion control, and better wildlife habitat.
<i>Source:</i> UNDP 2010b; UNDP 2010c.	



3. Enabling Conditions for Local Ecosystem-Based Solutions

Coverage

- Details eight basic enabling conditions that can maximize the chances of success and underpin the scaling up of local ecosystem-based initiatives.
- A set of related diagnostic tools are presented in the Appendix that can help assess the degree to which these enabling (or disabling) conditions are present, and where support could be focused to improve an initiative's chances for success or to scale up proven approaches.

Key Points

- The *resource potential* of the ecosystem should support the desired benefits stream in terms of both quantity and local value.
- *Enforceable resource ownership and access rights* give initiative participants a reasonable expectation of receiving the benefits of sound ecosystem management.
- A *favorable policy and regulatory environment* can enable local initiatives to access markets on a more equal footing with larger private sector actors, and ensures they will not suffer an unfair regulatory and tax burden.
- Access to *adequate finance and financial services* allows the initiative to bankroll its early work and invest in sustainable ecosystem management for the long term.
- *Participatory, accountable and transparent governance* enables initiative members to take ownership of group decisions.
- *Sufficient local capacities* in technical, business and social skills ensure that the actual work of the initiative can be accomplished and that the benefits can be equitably distributed.
- *Appropriate support services* help nurture initiatives as they mature and develop their internal capacities.
- *Networks and institutional linkages* nurture and sustain initiatives—speeding their growth by spreading good practices and encouraging innovation, enhancing market access and improving operational efficiency, and helping mobilize political and financial support.

3.1 Resource Potential of the Site

Each ecosystem has a unique potential to produce benefits—its resource potential. This potential has a direct bearing on the kind of initiatives that can be successfully undertaken on a given site. An ecosystem with a high resource potential that is managed well may be highly productive and thus able to support a large initiative. Even a less productive site may be suitable if the ecosystem services that are tapped are of high enough value—such as high-value timber or spectacular scenery. Resource potential has two components: the biological potential or productivity of the ecosystem, based on physical and climatic factors like rainfall, elevation, soil type and slope; and the market potential of the services derived from the ecosystem, which relates to the economic value of these services and the ecosystem's proximity to markets.

Determining a local ecosystem's resource potential is among the first items of business in forming a local ecosystem-based initiative. Measuring the area and conducting a natural resource inventory, including current levels of production of common benefits like timber, fish, fodder or crops is a first step to establish a physical and biological baseline. Equally important is to determine the history of use and past production on the site, which can give clues to how much ecosystem restoration needs to be done and what the site is capable of if it is restored. Determining a site's market potential is more difficult because an initiative may want to produce goods or services that have not been produced on the site before. Nonetheless, an attempt to place a value on these goods and services is an important part of the visioning process of an initiative, creating the driving force behind the initiative's activities.

If approached as a group exercise, conducting a resource inventory and measuring the ecosystem's resource potential can be an entry point for the community into the initiative process. In addition to building trust and cooperation among group members, the results of the assessment can provide a neutral ground that all members accept, and thus a good starting place for dialogue and negotiation on what activities the initiative should pursue, what returns it should expect on its investments, and what risks it can afford to take to reach its goals (WRI et al. 2008; World Bank 1995).

If available, local-level ecosystem assessments can provide a critical source of information and analysis on local ecosystem conditions, trends and production potential.

[See Appendix, Diagnostic 1]

3.2 Enforceable Resource Rights

Secure resource rights are necessary to create the basic incentive for a local ecosystem-based initiative. To be motivated to undertake the difficult work of ecosystem management, members of an initiative must have confidence that the benefits of their work will accrue to them rather than be appropriated by others, and will continue to accrue over time. Tenure—the bundle of rights associated with ownership of land or a resource—is the social and legal basis of this confidence. Tenure embodies the rights to use, manage and profit from resources and to exclude others from access. This includes the right to create and enforce rules for using the resource. Secure tenure in an ecosystem-based initiative translates to an ability to undertake a management plan without fear that the state or other

powerful parties will take control of the ecosystem resources without due process or fair compensation (Bruce 1998; WRI et al. 2005).

Research confirms that secure land and resource rights lead to greater investments in land and resource management. For example, some studies show that investment doubles on land where tenure is strengthened. The link between secure tenure and willingness to invest is particularly true for investments that are expensive or take time to bear fruit, such as installing infrastructure like drip irrigation systems for better water management, buying new fishing gear to make fishing practices more sustainable or planting orchards for sustained production over years. These are the kinds of investments in better management practices that initiatives need to make in order to establish and sustain their benefits stream (van den Brink et al. 2006; Feder 2002; Meinzen-Dick and Di Gregorio 2004; WRI et al. 2008).

Given the link between secure tenure and investment, it is not surprising that studies link secure tenure with the success of community-based natural resource management. A 2006 meta-study of community forestry projects worldwide found a significant correlation between a community's security of forest tenure and the success of the project. Other factors related to property and resource rights were also found to be important to success, such as clearly defined forest boundaries and clear rules for forest use. These findings demonstrate the central role that resource rights play in the core activities of ecosystem-based initiatives and suggest that securing these rights must be a priority (Pagdee et al. 2006).

However, tenure systems are complex and the sources of tenure insecurity are often difficult to address. One significant source of insecurity is that two systems of tenure exist side by side today in many regions where ecosystem initiatives may form—the modern state-sanctioned system based on registered titles, and customary tenure that has often existed for generations, enforced by village elders, tribal chiefs or other traditional authorities. These systems often overlap, with a single parcel claimed under both systems; the result can be conflict and competing property claims (WRI et al. 2008).

Also, in empowering local initiatives with resource rights, there may be a risk of undermining the legitimate functions of local government institutions such as elected village councils. As the local organs of representative democracy, these institutions are—or should be—charged with managing the local environment for the public good. Ecosystem initiatives function best when they work in tandem with local governments rather than as competitors, with government exercising oversight on the operation and also providing support services where they can (WRI et al. 2008).

[See Appendix, Diagnostic 2]

3.3 Market Access and Favorable Regulatory Environment

As steward of a nation's natural resources and regulator of its economy, governments often have a complex regulatory structure to control the harvest, transport and sale of products such as timber, bamboo, fish, cattle, commodity crops and a host of other natural products with proven commercial value. This may involve submitting approved management plans, obtaining harvest permits, living within harvest quotas or selling crops like coffee or cocoa only at state-run exchanges.

Many of these regulations are designed with larger producers in mind and can create serious problems for smaller producers like local ecosystem-based initiatives. A 2007 survey of community forest enterprises worldwide found that the high costs associated with submitting complex management plans and obtaining the necessary harvest permits were major obstacles to the success of these enterprises. Resource, transport and value-added taxes are a similar burden. In addition, permit, quota and tax systems provide a convenient route for those with political influence or money to subvert the system and monopolize resources or engage in other anti-competitive behaviors (Molnar et al. 2007; Ribot 2004).

Lowering the aggregate burden of taxes and regulatory costs and simplifying permitting and planning procedures for community-based initiatives would boost their financial viability and help rectify the significant disadvantage they face relative to larger and more politically connected resource users (Molnar et al. 2007; Ribot 2004).

[See Appendix, Diagnostic 3]

3.4 Adequate and Dependable Finance

Lack of adequate finance is one of the first difficulties that ecosystem-based initiatives face. Initiatives need funds to cover their start-up costs and invest in good ecosystem management. Unfortunately, initiatives face the same barriers to conventional finance that most small rural businesses face: a lack of collateral or proven income stream and high vulnerability due to poverty and lack of assets. Such a profile makes them unlikely candidates for conventional bank loans or outside investors (WRI et al. 2008).

Inadequate finance for the rural poor has inspired the development of microfinance to help fill the unmet need. However, microfinance in its current state is not sufficient to meet the needs of most initiatives, particularly if they are to scale up in number, size and economic impact. According to a 2007 World Bank estimate, only about 500 million of the 3 billion people who could benefit from microfinance have access to it, in spite of the tremendous growth it has undergone in the last decade. In addition, most microloans, which range from \$20-\$500, are too small to meet the needs of ecosystem-based initiatives (World Bank 2007; WRI et al. 2008).

Many initiatives have been able to tap start-up funding or continuing grants from development agencies, government rural development programs or even environmental NGOs. These funding sources have been invaluable in making the case that ecosystem-based initiatives can generate substantial benefits for a modest investment cost. However, such financing has been limited in scope and generally awarded on a project-by-project basis using widely varying selection criteria. Thus there is no standardized source of funding available in most countries for such initiatives.

Reliable funding for ecosystem-based initiatives will call for expanding both existing grant and microfinance sources as well as developing new sources. The microfinance industry has been growing rapidly in recent years, especially with the entry of commercial banks into the market. This could significantly increase the amount of available credit, especially if new financial products are developed to serve the high end of the microcredit market—groups which require loans larger than a microloan, but which still lack a credit rating good enough for a standard loan (WRI et al. 2008).

Climate finance is another and perhaps more significant source of new funding for local ecosystem-based initiatives. Even in the absence of a global climate agreement, developed countries have pledged to make available considerable new and additional funding for climate mitigation and adaptation in developing countries. Given the contribution that ecosystem-based initiatives can make to climate adaptation, particularly community-based adaptation, it is likely that they would be eligible for some of these funds as well as other climate finance mechanisms such as REDD+ (Reduced Emissions from Deforestation and Forest Degradation).

The challenge will be to set funding criteria that are clear enough to help guide the design of local initiatives and yet flexible enough to accommodate their great variety and not suppress their community-driven character. Another challenge will be to put in place an institutional mechanism to channel such funds to the local level in an efficient and reliable manner. A successful example is the UNDP-GEF Small Grants Programme, which uses a decentralized approach in which a National Steering Committee is responsible for local funding decisions. Since its inception in 1992, the Small Grants Programme has expanded to some 125 countries and has funded more than 10,000 local initiatives (UNDP 2010).

[See Appendix, Diagnostic 4]

Box 9 lists some possible sources of finance for ecosystem initiatives.

Funding Type	Funding Source	Strengths	Weaknesses
Conventional Loan	Private sector banks	Well-known product; loan amounts potentially large; relatively low interest rates	Difficult to obtain without sufficient collateral or loan guarantees
Micro Loan	NGOs, development agencies, private sector banks	Easy to qualify for; often come with ancillary support services to help businesses succeed	Small loan amounts; high interest rates; limited supply
Direct Grant	National governments; international aid agencies and multilateral development banks	Helps meet initiative expenses without placing a repayment burden; payments potentially large and can continue for several years	Limited supply; selection criteria not standardized; subject to political influence; can be terminated without warning
Payment for Ecosystem Services	National or international performance-based payment mechanisms – example, REDD+ (Reduced Emissions from Deforestation in Developing Countries)	Potentially large pool of funds available; incentive-based; no repayment obligation; could greatly increase funding for and scaling up of forest initiatives, and possibly other land uses	Delivery mechanism unclear; selection criteria unclear; potential for elite capture of benefits; performance monitoring

3.5 Participatory, Accountable and Transparent Governance

Participation by an initiative’s members in its decisions is a vital part of ensuring their “ownership” of the initiative. Just as resource rights impart a sense of physical ownership of an initiative, participation rights ensure ownership of its decision-making process, and are a foundation of good governance. By participating in decisions about what benefits the initiative should seek, who should obtain these benefits and how to manage the ecosystem in order to attain them, members are more willing to invest their time in initiative activities

and abide by ecosystem management rules. They are also more confident that they will obtain a fair share of the initiative's benefits (World Bank 1996; WRI et al. 2008).

Participation is also important to the initiative's process of growth and maturation. Many social benefits stem from the process of participation itself, including greater self-confidence and increased social status. Initiative members who might not have interacted with each other have a chance to do so in a supportive environment that builds trust and fosters social cohesion. It also builds the community's democratic culture (Involve 2005; World Bank 1996).

However, these benefits of participation can only come about if the governance structure of the initiative is sound. Responsibility for initiative governance is usually vested in an institution such as a forest protection committee, grazing council, fishing cooperative board, conservancy executive council or other executive body. How this body functions often determines the quality of participation in the initiative. Unfortunately, the limitations of local organizations often show up as dysfunctions in the functioning of an initiative's institutions, sometimes as a lack of inclusiveness in the group's executive body, or a lack of openness about how this body makes its decisions or spends the initiative's money (WRI et al. 2008)

Thus, the design of an initiative's executive body is crucial. Experience shows that an effort to form this institution along democratic lines can improve the participation of initiative members and the overall governance of the initiative. This often translates to rules that require accountability mechanisms such as regular elections to the executive body or periodic audits of the initiative's finances and spending patterns. In addition, regular communication and dialogue between the executive body and both initiative members and partners in state agencies or donor organizations can increase the transparency and openness of the group (WRI et al. 2008).

However, even the best institutional design cannot insure perfect participation. Communities are not homogeneous and may contain several stakeholder groups with competing interests. An initiative's membership may reflect this dynamic. Reconciling such natural divisions within the membership usually requires a deliberate process of social capacity building built on genuine shared interests and gradual trust-building and negotiation (WRI et al. 2008).

[See Appendix, Diagnostic 5]

3.6 Local Capacity

Capacity is the ability of individuals and institutions to perform their functions, solve problems and set and achieve objectives. An ecosystem-based initiative is usually a complex undertaking requiring from its members a number of different technical, social, business and institutional capacities that they often have never had the opportunity to develop. Lack of capacity in one or more critical areas is thus a common problem for initiatives and can seriously impede their ability to manage the ecosystem; handle the financial matters of the initiative or run an enterprise associated with it; or work together effectively to achieve the initiative's goals (WRI et al. 2008).

While the need to develop technical and business capacities is often well-recognized by initiative organizers and supporters, the equally pressing need to develop strong social capacities is not as obvious. However, the social capacities of the group are fundamental to its functioning and, in many ways, more critical and more difficult to develop. Without the ability to work together toward a common goal through difficult times, the initiative is not likely to progress too far. This ability is sometimes fostered through group communication and visioning exercises and shared field work in the initiative's early stages. Effective processes for negotiation and dispute resolution within the group are also important as time goes on (WRI et al. 2008).

Strong leadership is also an essential capacity. A good leader will help to organize an initiative's early efforts, articulate a vision that inspires members, build and focus demand, present available options for action, convince members to follow through on their commitments, and interface with sponsors and state agencies. However, charismatic leaders can sometimes dominate an initiative in ways that suppress participation and independent learning in initiative members. The challenge is to balance forceful and inspiring leadership with an ability to listen to members and encourage participation in the decision-making process (WRI et al. 2008).

Given the array of skills necessary for a successful initiative, opportunities for significant capacity development are a must. Experience shows that the most effective capacity building is interactive, hands-on and long-term rather than one-off "how-to" training sessions. Mentorships, site visits to other successful initiatives, internships and other situations where peer-to-peer exchange with individuals involved in similar efforts have all shown their value as opportunities for rapid capacity enhancement. A variety of local, national and even international organizations often catalyze and support this capacity building process (WRI et al. 2008).

[See Appendix, Diagnostic 6]

3.7 Appropriate Support Services

Even a well-conceived initiative that springs from community demand and engages the community's energy and resources toward a well-articulated goal will require a range of support services to reach its maximum potential. This is especially true in the beginning, when the group's capacities are not fully developed, their experience together is minimal, and many planning, managerial and business matters must be attended to in a short period. Making sure these services are available is one of the surest ways that those wishing to support ecosystem initiatives can help them thrive. Box 10 lists some of the more common services that initiatives may require.

Many different organizations—some local and others not—are usually needed to provide all the different services that initiatives need. Local NGOs are often crucial in supporting technical, social, and business capacity building, but other civil society groups such as unions, universities and local commercial associations contribute as well. Private sector actors usually provide financial services, insurance and specialized services like organic certification or tax advising. Government also has a large support role through its extension services and through programs for enterprise development. It can also lend its help in mapping and tracking trends in the resource base, and also in enforcement in some cases (WRI et al. 2008).

3. Enabling Conditions for Local Ecosystem-Based Solutions

Box 10 Support Services for Local Ecosystem-Based Initiatives

Service	Examples	Service Provider
Capacity building		
■ <i>Technical training</i>	Agriculture, forest or fishery extension services; expert technical consultations and course work	Governments; NGOs; aid agencies; universities; private sector consultants
■ <i>Social capacity building</i>	Group facilitation and leading visioning and team-building exercises	NGOs
■ <i>Business skills training</i>	Coursework in accounting or other financial skills; Internships and mentoring programs	NGOs, unions, cooperatives, and other civil society groups; government agencies
Resource analysis and forecasting	Timber assessment; fishery stock assessments; resource mapping	Government agencies; NGOs
Accounting	Keeping the books on initiative receipts and expenditures	NGOs, private sector consultants
Marketing	Market research; outreach to new distribution networks; advertising	NGOs, private sector consultants
Legal services	Writing contracts and reviewing permits	NGOs, private sector consultants
Enforcement	Patrolling fishing grounds, forest blocks or rangelands to prevent inappropriate or illegal activity	Government agencies
Communication and outreach	Newsletter profiling initiative activities or products; webpage describing initiative goals, activities and results	NGOs, private sector consultants
Financial services	Banking services including loans, savings and checking accounts	Private sector banks; NGOs
Risk management	Property insurance; crop insurance; disaster preparedness	Private sector insurance companies; governments; NGOs
Certification	Sustainable forestry certification; organic food or herb certification	NGOs; private sector contractors
Tax preparation	Preparing tax returns and rendering tax advice	NGOs; private sector contractors
Advocacy	Political organizing and advocacy before government agencies and legislators	NGOs, unions

One class of service providers is especially valuable to ecosystem initiatives because they provide a single source for a number of strategic and technical services, and are especially adept at capacity-building. These so-called intermediary support organizations (ISOs) are not local organizations per se, but often have their roots at the local level because they started there (Box 11 provides an example). Instead, they operate in the space between the state and the local level, using their extensive network of contacts and their experience in organizing local groups to help initiatives come to a group consensus on action and then to connect with the services and learning opportunities they need (WRI et al. 2008).

Intermediary support organizations are often particularly good at helping initiatives build their social capacity by catalyzing group processes. For example, ISOs may incorporate guided social interactions and group learning as part of technical capacity-building courses. They are often seen as honest brokers—fair-minded outsiders who can help the group to surface and work through latent divisions and potential conflicts that could otherwise stymie its progress. Another crucial strength that ISOs bring is their ability to construct bridges to those in government agencies—bridges that can help dissolve bureaucratic bar-

riers and route government financial and technical support to the fledgling initiative. Due to their effectiveness, encouraging the development of ISOs is one of the most important ways that development agencies and governments can support the growth and scaling up of ecosystem-based initiatives (WRI et al. 2008).

[See Appendix, Diagnostic 7]

Box 11 An ISO Profile: KAITE Company – Zimbabwe

KAITE Company renders a variety of organizing, marketing, capacity-building, technical and social services to an association of more than 500 small farmers in rural Zimbabwe engaged in growing organic herbs, spices and essential oils. KAITE trains small-scale farmers in organic growing methods at its two training centers and demonstration gardens, and helps them attain organic certification so that the herbs, spices and oils they produce are readily marketable in Europe and North America. KAITE then links them with the international fair trade market so they can maximize income from their efforts. Median incomes of families in the association have risen 150 percent as a result, allowing them to afford school fees for their children, medicines and other necessities. KAITE also encourages association farmers to grow organic staple crops such as maize, sorghum, wheat and soy beans to improve family nutrition. The organic methods used have greatly improved agroecosystem conditions by eliminating pesticide residues, improving soil fertility and arresting land degradation on the farmers' plots. In addition to these economic and environmental benefits, the KAITE Company works in concert with KAITE Trust to assist with the schooling of the children of association farmers, gives training in HIV/AIDS prevention and helps to care for orphans within the farming communities. Through this entrepreneurial yet holistic approach, KAITE contributes to sustainable livelihoods in an area where poverty is high and income opportunities few.

Source: KAITE Company 2010; SEED Initiative 2010.

3.8 Networks and Linkages

Local ecosystem-based initiatives typically face problems of distance from markets and separation from sources of support and learning. Networks and associations—from producer groups, trade associations, cooperatives, federations and other formalized associations, to informal and spontaneous groups like learning networks—help to relieve this isolation (WRI et al. 2008).

Networks and associations can magnify and extend collective action so often critical to ecosystem initiatives. Producer associations, for example, allow groups with similar activities to join together and share facilities and lower production and transport costs. Similarly, agricultural cooperatives enable individual producers to purchase seeds and other farm supplies in bulk and share harvest equipment. Producer associations are also vital to increase market access and bargaining power. Milk cooperatives in the state of Gujarat, **India**, for example, have been highly successful at organizing milk producers to increase their product quality and distribution and thus increase sales (WRI et al. 2008; Marsh 2003).

Information and learning networks are conduits for information, ideas and analysis, and forums for group learning. They allow initiatives to receive the latest information on local resource conditions, markets and technologies, and to stay abreast of available support from governments, NGOs and development agencies. They are particularly useful in fostering innovation and experimentation. They provide a platform for initiatives to share les-

sons with others facing similar challenges and can be a mechanism for undertaking joint research or field trials. In this way, they lower the risks to those in the network of adopting new technologies or ecosystem management strategies. Promoting learning networks is thus one way of increasing the adaptive capacity of initiatives—providing a route to more successful climate adaptation (Thomas et al. 2005; WRI et al. 2008:).

Beyond the benefits of greater efficiency and access to information and learning opportunities, networks provide many social and political benefits as well. For example, associations provide structured opportunities for members of an initiative to mix with other people outside their community circle, building social capital with a wider community of peers through contact and cooperation. These linkages may mature into a web of social support that can substantially contribute to the sustainability of the initiative over time. In addition, membership in a formal, recognized association can raise the profile of an initiative, helping it to emerge from the informal sector and gain official recognition and access to government support programs through the association (WRI et al. 2008).

Associations such as federations can also become avenues for political empowerment, allowing those who make their livelihoods from ecosystems to organize and advocate for their interests. For example, in **Nepal**, the Federation of Community Forest User Groups (FECOFUN) represents some 9,000 community groups, giving it substantial political influence as it tries to advance the ability of its members to harvest and market non-timber forest products such as herbs (WRI et al. 2008).

Given these substantial benefits, helping initiatives to form or enter viable associations is usually high on the agenda of support organizations once an initiative is on its feet. Such associations are themselves often short on funds and in need of capacity-building support, in much the same way as many local organizations.

[See Appendix, Diagnostic 8]

4. Mainstreaming Local Ecosystem-Based Solutions

Coverage

- Considers the challenge of how to bring about the enabling conditions outlined in Section 3.
- Describes a ‘programmatic approach’ for supporting and scaling up local ecosystem-based initiatives, within the broader framework of a country poverty-environment mainstreaming programme.

Key Points

- To be most useful, *government’s role* should shift from initiator of rural development schemes to an enabler of locally led efforts.
- A *programmatic approach* can deliver more comprehensive and better-coordinated support to local ecosystem-based initiatives and the enabling conditions for scaling up impact. Key elements of a programmatic approach would include:
 - Promoting a targeted policy and regulatory reform agenda;
 - Coordinating and streamlining access to sources of finance;
 - Providing a clearinghouse for support services and access to intermediary support organizations;
 - Facilitating lesson learning and knowledge exchange;
 - Ensuring monitoring and assessment of performance and results.
- A programmatic approach to scaling up local ecosystem-based initiatives can be designed and implemented as *a core component of a country poverty-environment mainstreaming programme*.

4.1 A Programmatic Approach to Scaling Up Impact

Section 3 suggests the many different kinds of enabling conditions and support that local initiatives may require to launch and sustain themselves. But how this support is delivered can make all the difference. A haphazard or piecemeal approach is not likely to catalyze the kind of scaling up of local initiatives that is needed to significantly impact poverty and advance rural economic development. Rather, scaling up ecosystem-based initiatives calls for a more comprehensive and integrated approach. For national governments and other stakeholders, this will take the form of a programmatic approach to scaling.

A country-led programmatic approach goes beyond the conventional project-by-project focus to adopt a more systematic and coordinated strategy for mainstreaming local solutions in national and local development planning. Such an approach also recognizes that other actors beyond government, such as NGOs and international development organizations, are essential partners in the scaling up effort and that coordination of these different sources of support is essential. As illustrated in Box 12, a programmatic approach could include the following key elements:

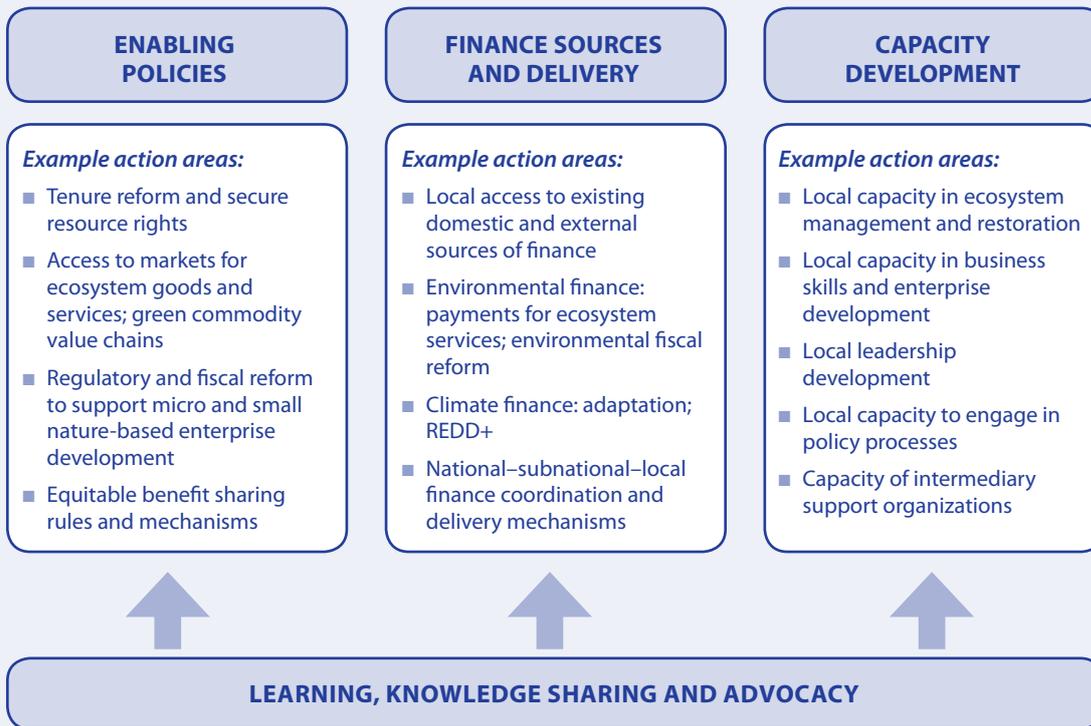
- Promoting supportive policy, legal and regulatory reforms;
- Expanding access to and better coordinating appropriate sources of domestic and external finance;
- Facilitating access to support services and intermediary support organizations;
- Supporting local-to-local and local-to-policy level learning and knowledge exchange;
- Ensuring monitoring and assessment of performance and results.

A programmatic approach containing these or similar elements is necessary to create the enabling conditions for supporting and scaling up local ecosystem-based initiatives (as well as other types of local initiatives), and can be designed and implemented as a core component of a country poverty environment mainstreaming programme.

4.2 Promoting a Supportive Policy, Legal and Regulatory Framework

It is not enough to build capacities and create vibrant institutions at the local level. Success at this level requires supportive policies and institutional reforms at the national level as well. Currently, many natural resource regulations, tax policies, property rights and regulations on the registration of associations and NGOs work against the success of local initiatives and small rural enterprises. Removing these barriers and creating incentives through appropriate reforms will make local initiatives more effective and allow their enterprises to compete in the marketplace. But many of these reforms will not come easy, so picking priorities is essential. A programmatic approach must include a commitment by the national government to identify the most pressing policy obstacles and chart a reasonable and staged course of reform.

There are many areas in which policy shifts could remove obstacles to the formation and long-term success of local ecosystem-based initiatives. Four of the most important reforms are outlined here (WRI et al. 2008).

Box 12 A Programmatic Framework for Scaling Up Local Ecosystem-Based Initiatives

Source: Hazlewood and Mock 2010.

Pursue tenure reform

There is wide recognition of both the need for and difficulty of reforming land and resource tenure systems. Although there is no generic formula for tenure reform, experience in several countries suggests a few guiding principles. First is the need to explicitly recognize local customary land rights, including communal tenure, since such rights are still in common use and cannot be ignored without disenfranchising many rural families. Second is the desirability of developing low-cost and accessible forms of land and resource registration that make use of local institutions such as local councils or courts for their execution. These can provide an alternative to the formal titles issued by central authorities, which have proven to be slow, costly and contentious. Third is the need to specify in national law the rights and responsibilities of both parties in co-management arrangements, where the state shares resource tenure with local communities or resource user groups. Fourth is the necessity for developing a functional dispute resolution mechanism that can link the existing customary and statutory tenure regimes in a common framework that allows conflicting land and resource claims to be settled.

Decentralize natural resource authority to the local level and clarify the role of local governments

Even with secure tenure, local ecosystem initiatives are often hindered by a lack of legal authority to manage their ecosystem assets—an authority that often remains with the central government. Decentralizing the planning, management and monitoring of natural resources to the local level—whether to local government authorities or to the initiative

itself—is thus necessary to enable initiatives to function effectively. At the same time, central governments can help clarify the relationship between an initiative’s executive body and the local government so they can work together rather than compete for resource management authority. This can be done by defining more clearly local governments’ role as arbiter of local resource use. This may mean ceding greater oversight responsibilities and regulatory control—such as permitting authority for resource use and oversight—to local authorities, while also demanding greater transparency from these authorities. Local officials can then further devolve pertinent ecosystem management decisions directly to the initiative’s executive body without undermining their authority.

Streamline regulations and taxes and encourage competitive markets

To thrive, initiatives require a regulatory and tax environment that does not overburden them or unfairly restrict their resource access. Small rural enterprises often suffer in the face of a government bias toward large or city-based resource businesses. This can manifest in a tax and regulatory burden that is greater than that of their politically connected counterparts. It is also found in permitting and licensing that favors these more influential actors. In addition, rural markets are often plagued with anti-competitive behaviors such as the formation of cartels dominated by local or outside elites. Addressing these failings requires adjusting the tax and regulatory regimes to decrease the overall costs of licensing fees and taxes for small enterprises. It also demands an increase in the transparency of granting licenses, harvest quotas and resource concessions in order to reduce their use as sources of patronage. In addition, it requires better enforcement of basic competition laws against price-fixing and the formation of natural resource monopolies.

Promote rather than restrict associations and support organizations

Local associations such as cooperatives, unions or learning networks help rural producers connect to each other and achieve greater efficiency and market reach. At the same time, NGOs and other civil society groups provide essential support services and help initiatives organize themselves and develop the skills they need to accomplish the initiative’s work. Governments can support the growth of ecosystem-based initiatives by encouraging the formation of these associations and support groups rather than trying to rein them in or control their activity. That means removing the sometimes onerous registration requirements that governments frequently impose on such groups and refraining from overzealous oversight intended to shape their agendas and control their funding sources. Government policies that explicitly recognize the right to free assembly and minimize government involvement in local associations will have the effect of freeing up local entrepreneurial energies.

4.3 Expanding Access to Domestic and External Sources of Finance

Action at the national level to assess the financing needs of initiatives and coordinate diverse funding sources would help address a major barrier to launching and sustaining initiatives. For example, establishing a central platform or facility allowing ecosystem initiatives access to various sources of domestic and external finance—from grants to commercial loans—would make the funding challenge more tractable and transparent and increase finance efficiency.

Providing adequate financing for ecosystem-based initiatives is not the sole responsibility of the state, but governments are clearly important players in this task. Some examples of areas where government actions could be catalytic include:

- *Expanded grant funding.* New initiatives will benefit from direct support for pilot programs, some start-up costs of initiatives and select support services. Earmarking a percentage of state natural resource royalties for nature-based enterprises could provide one route to expanding the funding base available for grant support.
- *Proactive approach to REDD.* The potential for international climate change funding to support improved emissions reductions through forest stewardship provides an ideal opportunity to channel funds to local ecosystem-based initiatives. Creating a mechanism to distribute such funds to local initiatives should be combined with or at least complement other approaches that utilize payments for ecosystem services to fund nature-based enterprises.
- *Oversight of microfinance.* Governments have a vital role to play in providing oversight and regulation as the commercial banking industry enters the microfinance market. Governments can encourage competition to drive down loan costs and encourage loans appropriate to the size and growth potential of initiatives.

4.4 Facilitating Access to Support Services

In addition to removing policy barriers, governments are in the position to provide crucial technical and business support for establishing and scaling up local initiatives.

- *Clearinghouse for support services.* The most pervasive challenge to the sustainability of ecosystem initiatives is a lack of sufficient follow-on services after initiative start-up. Thus, an effort to ensure the availability of such support services is a necessity for any serious program meant to promote scaling. While many different service organizations may be needed to provide the array of required services and training, a central clearinghouse or umbrella organization for appropriate services could offer initiatives a single node to contact service providers.
- *Access to “intermediary support organizations”(ISOs).* Governments and development organizations are often not the best incubators of initiatives or the most appropriate service providers. This usually falls to ISOs, who, by their nature, have credibility and contacts at the local level, as well as experience organizing and facilitating local action. Equally crucial, ISOs can interface effectively with government agencies and international organizations that wish to support ecosystem initiatives, providing a useful bridge between the two levels. A national-level program to support the scaling up of ecosystem initiatives would necessarily include an effort to identify and support ISOs, learn from their work and deploy their services where appropriate.

Technical support

With their natural resource and economic planning expertise, governments can render many kinds of technical support at many different stages of an initiative. Examples include:

4. Mainstreaming Local Ecosystem-Based Solutions

- *Resource appraisals and economic evaluations.* To help the process of assessing a site's resource potential, government can contribute mapping and geographic information system work, train initiative members in monitoring protocols, and provide information on resource use trends, previous production history and current market data to give the group a basis for its economic evaluation of the ecosystem and its services.
- *Demand-driven extension services.* Governments have a long record of providing extension services that act as a prime conduit for introducing new technologies and resource management techniques. To meet the varied capacity-building needs of initiatives, these extension services should become more demand-driven and include more hands-on experience and follow-up to rapidly build initiative members' technical competence.
- *Support for community enforcement.* Enforcement of ecosystem management rules is usually best left to initiative members. However, when the area to be managed is large or contains widely dispersed resources like wildlife or fish, enforcement may be difficult for the community. The state can provide a service by training local initiative members in enforcement techniques and providing logistical support when needed.

Business support

Nearly all ecosystem initiatives have some revenue component to help fund the initiative's activities. Maximizing this revenue requires attention to enterprise development and the development of business skills. While NGOs and other civil society groups are often the most appropriate organizations to provide business capacity building, governments can offer important services in several areas.

- *Tailor enterprise development programs to the needs of small rural businesses.* Governments often have multiple enterprise development programs targeted to different groups, so tailoring such a program to the needs of ecosystem enterprises should be an option. Such a program would include helping initiatives to perform market analyses to identify sources of revenue, assist with product development appropriate to the available market, create business plans to reach initiative income goals and provide mentoring programs to reduce the failure rate of initiative businesses.
- *Provide real-time market data.* Even though they are small rural enterprises, initiatives are often connected to global markets for commodities and services such as nature tourism. Real-time market data is therefore as important to them as it is to larger enterprises, helping to reduce the effects of isolation and recover maximum value for their efforts.

4.5 Supporting Learning and Knowledge Exchange

Proven local ecosystem-based initiatives provide a model of success that, when communicated to other communities, inspires action. This "local demand" is the first step in the scaling up process. Experience shows that effective learning networks can significantly reduce—by half or more—the uptake time of a best practice or new technology by allowing initiative members to learn from the mistakes of others in similar conditions. Learning exchanges foster innovation and experimentation and increase the adaptive capacity of a local initiative—its ability to respond to challenges in positive ways that allow the group to continue to meet its goals. Thus, enhancing the communication skills of initiatives and fa-

Facilitating continuous knowledge exchanges with other initiatives is one of the most important means of speeding the scaling process, and increasing the effectiveness and sustainability of initiatives.

- *Reduce the cost and technology barriers to knowledge exchange.* Knowledge-sharing and communication can take a variety of forms, from face-to-face exchanges or site visits, to radio broadcasts, to web-based learning networks and best-practice exchanges, each with different costs, technology requirements and time requirements. Reducing the cost and technology barriers to the use of these modes is a critical concern in fostering their increased use. Governments, NGOs and international organizations are often in a good position to help initiatives connect with each other, analyze and extract lessons learned, and communicate their successes via publications, site visits, the web or other national and international networks.
- *Revitalize traditional information platforms such as cooperatives and extension programs.* Although new technologies such as the internet have become essential communication tools and have greatly expanded the range of topics and participants in knowledge exchanges, recent research has confirmed the value of traditional information exchanges, such as cooperatives and extension programs that can act as trusted information intermediaries. A commitment to developing appropriate knowledge sharing among initiatives and between initiatives and policymakers requires seeing these traditional institutions in a new light and helping them to develop into modern partners in learning and information exchange.

4.6 Ensuring Results-Based Monitoring and Evaluation

Monitoring and performance assessment is an important aspect of accountability, learning and program evolution. Analysis of performance data can help to identify successful scaling strategies and pinpoint areas where initiatives typically stumble, so that authorities can provide better-targeted support. Monitoring and evaluation is also necessary to assess the effectiveness of state and international financing and the quality and timeliness of services provided by the state, NGOs and international organizations.

Developing appropriate metrics

One of the most significant barriers to effective monitoring and evaluation of local ecosystem-based initiatives is the lack of appropriate metrics. While interest in metrics of development outcomes has surged with the recent emphasis on results-based management, indicator development for local-level action and organizations remains relatively underdeveloped. Metrics development is needed in the following areas:

- *Project and program performance.* Metrics of the economic and health benefits of local initiatives, such as increased family income or reduced sick days, are fairly well established. The challenge here will be to augment these standard income and health measures with measures of the social and ecosystem benefits associated with local programs and projects—measures which are much less common. This includes measures of community resilience and adaptive capacity.

4. Mainstreaming Local Ecosystem-Based Solutions

- *Local organization performance.* Measures of both capacity and governance of local organizations are necessary to assess their performance and what support services they require. This involves determining the core set of technical, management and financial capabilities that local organizations need to successfully undertake an ecosystem-based initiative. It also involves deciding what governance standards are appropriate for local organizations.
- *Finance Effectiveness and Governance.* These metrics must assess not only the benefits gained per dollar invested, but the manner in which investment decisions are made, including the extent to which such decisions originate locally and are therefore community-driven.
- *Presence of Enabling Conditions.* These metrics should address basic access to ecosystem resources (including secure resource tenure), the suitability of the local business climate (access to markets and the regulatory burden local businesses face), access to technology and support services such as technical extension services or business planning and enterprise development services, and access to learning networks.

Appendix. Diagnostics for Local Ecosystem-Based Solutions

Coverage

A set of diagnostic tools to help assess the degree to which the enabling (or disabling) conditions detailed in section 3 are present, and to help identify where support could be focused to improve an initiative's chances for success or to scale up proven approaches. The diagnostics can be adapted to assess the broader conditions for scaling up in order to help inform the development of a country poverty-environment mainstreaming programme.

- Diagnostic 1: Resource Potential of the Site
- Diagnostic 2: Resource Ownership and Access Rights
- Diagnostic 3: Market Conditions and Regulatory Environment
- Diagnostic 4: Finance Needs, Sources and Services
- Diagnostic 5: Institutional Design and Governance
- Diagnostic 6: Local Capacity Needs
- Diagnostic 7: Support Services
- Diagnostic 8: Networks and Linkages

Diagnostic 1 Resource Potential of the Site

Answers to the following questions will give a good picture of the resource potential of an ecosystem initiative site. This information can then be used to tailor the initiative’s activities to take maximum advantage of the site’s potential. It will also help initiative members to anticipate the revenue stream (or other non-revenue benefits) they may expect under different types of ecosystem management.

Physical Parameters

<p><i>What are the physical features of the site and its predominant land cover or aquatic characteristics?</i></p>	<ul style="list-style-type: none"> ■ <i>What are the location and size of the ecosystem initiative site?</i> ■ <i>What is the ecosystem type (e.g. open-canopy dryland forest, inland lake, mangrove wetland, short-grass prairie)?</i> ■ <i>What are the yearly rainfall and the length of the growing season, or for wetlands, the time of annual inundation?</i> ■ <i>What are the soil type, average slope and ground cover? For aquatic systems, what are the depth and flow characteristics of the water body, and what are the aquatic and shoreline vegetation?</i> ■ <i>Any other physical or climatic factors relevant to the planned activities of the initiative?</i> ■ <i>Has the site ever been mapped? Are geospatial data available for GIS mapping?</i>
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Productivity

<p><i>Ecosystem services. What are the services that the site currently produces?</i></p>	<ul style="list-style-type: none"> ■ <i>Has an ecosystem assessment been conducted in the area?</i> ■ <i>What ecosystem services are currently exploited on the site</i> <ul style="list-style-type: none"> — <i>Timber: what species?</i> — <i>Non-timber forest products: what kind?</i> — <i>Fodder: what species?</i> — <i>Fish: what species?</i> — <i>Wetlands: what species of animals and plants?</i> — <i>Crops: what kinds or varieties?</i> — <i>Scenic value or biodiversity for tourism: what features or species?</i> ■ <i>Consumptive or non-consumptive use?</i> ■ <i>Intensive or low-intensity production?</i> ■ <i>Percentage of site currently in production?</i> ■ <i>Is there potential for expansion or extension of current production?</i> ■ <i>Has a biological assessment of the site ever been conducted?</i>
<p><i>Quantity and value. How much does the site produce and what is its value?</i></p>	<ul style="list-style-type: none"> ■ <i>What is the gross harvest quantity or service produced?</i> ■ <i>What is the market value of current services produced?</i>
<p><i>History. What services were produced in the past?</i></p>	<ul style="list-style-type: none"> ■ <i>How has land use changed in the last two decades?</i> ■ <i>What was the quantity and value of services produced in the past?</i> ■ <i>How does current productivity compare with past production? Are time series data available?</i>

Diagnostic 1 Resource Potential of the Site

Livelihood Impacts

<i>Household use. How are the ecosystem services used?</i>	<ul style="list-style-type: none"> ■ Are the ecosystem resources used directly for subsistence? ■ Are the ecosystem resources used to generate income?
<i>Contribution to household economy? What percentage of household income does each ecosystem contribute?</i>	<ul style="list-style-type: none"> ■ Percentage of household income contributed by subsistence income gained on the site? ■ Percentage of household income contributed by cash income gained on the site? ■ What are the other sources of household income besides ecosystem-derived income? <ul style="list-style-type: none"> – Outside employment? – Remittances? – Government transfers?
<i>Contribution to local economy. How does income produced by the ecosystem factor into the local economy?</i>	<ul style="list-style-type: none"> ■ How much of the local economy is represented by ecosystem goods and services? How much of the local economy is represented by ecosystem goods and services?

Risk

<i>Climate risk. What risk does climate change pose to ecosystem productivity?</i>	<ul style="list-style-type: none"> ■ What are the likely climate impacts to the ecosystem? ■ Have any of these impacts manifested yet? ■ How will these impacts affect production of the desired ecosystem services? ■ How will this affect the desired benefits stream? ■ What mitigation strategies are possible and when will they have to be employed?
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Diagnostic 2 Resource Ownership and Access Rights

Many different tenure arrangements can support a functioning ecosystem-based initiative. However, the more extensive and durable the initiative’s resource rights are, the less likely that insecure tenure will present an obstacle. Evaluating the extent and durability of an ecosystem-based initiative’s resource rights requires examining not just the particulars of the tenure arrangements, but the members’ perception of their tenure security, since it is this perception that will strongly influence the group’s willingness to invest their time, effort and money in the initiative’s activities. Assessing the pressures on adjacent land parcels is also important. Pressures such as active resource concessions in the area, rising land values or conflicting land claims can put resource tenure in jeopardy and reduce the impetus to undertake an ecosystem-based initiative.

Tenure Status

<p><i>Current tenure arrangement. What is the tenure status of the land or ecosystem resource that the initiative intends to use?</i></p>	<ul style="list-style-type: none"> ■ <i>Is the land or resource privately owned or is it under public ownership (i.e., occurring on state land or a state-administered water body)?</i> ■ <i>If the land is privately owned, what kind of tenure: freehold, lease, other?</i> <ul style="list-style-type: none"> – <i>Is there a state-issued title? Who holds the title?</i> – <i>If there is a lease, what are the duration and terms?</i> ■ <i>If the land or resource is state-owned, has a joint management agreement been negotiated between initiative members and the state? If so, what are its terms?</i> <ul style="list-style-type: none"> – <i>What use is allowed?</i> – <i>What is the duration of the agreement?</i> – <i>What is the benefits-sharing formula?</i> – <i>What are the state’s oversight responsibilities?</i> ■ <i>Is the land or resource being used under a customary tenure arrangement?</i> <ul style="list-style-type: none"> – <i>Who is the administering authority (the authority that legitimizes and enforces the arrangement)?</i> – <i>Is the tenure communal?</i> – <i>Is this customary tenure recognized by the state?</i> ■ <i>What is the tenure status of adjacent parcels?</i>
<p><i>Perceived tenure security. How secure do the initiative members feel about their ability to use and benefit from the ecosystem?</i></p>	<ul style="list-style-type: none"> ■ <i>Do initiative members express confidence in their ability to access ecosystem resources over the long term (i.e., two decades or more)?</i> ■ <i>Are members willing to contribute time or money to the initiative?</i> <ul style="list-style-type: none"> – <i>If not, is this due to the perception of insecure tenure?</i> ■ <i>If tenure arrangements are currently uncertain, do members expect to be granted secure tenure eventually?</i> ■ <i>Do lenders or funders express confidence in the tenure arrangements?</i>

Diagnostic 2 Resource Ownership and Access Rights

Tenure Pressures

<i>Outside interest in resource use. Are there other parties competing to use the ecosystem resources?</i>	<ul style="list-style-type: none"> ■ <i>Has any interest been expressed by outside parties in local land or resources?</i> ■ <i>Has the government granted any resources concessions in the area, such as timber, mining or fishing concessions?</i> <ul style="list-style-type: none"> – <i>If so, are these in active production?</i>
<i>Land markets. Is there an active land market in the area of the initiative?</i>	<ul style="list-style-type: none"> ■ <i>Has there been much change in land or resource ownership in the area recently?</i> ■ <i>Have land or resource values been rising or falling in the area recently?</i> ■ <i>That is the current market value of the ecosystem or the resources it contains?</i>
<i>Land and resource disputes. Are there conflicting tenure claims in the area of the initiative?</i>	<ul style="list-style-type: none"> ■ <i>Are there current land or resource disputes involving the initiative site or adjacent sites?</i> ■ <i>Are there any dispute resolution mechanisms available locally to address these conflicts?</i> ■ <i>Are local population pressures and/or in-migration leading to land and resource disputes?</i>

Diagnostic 3 Market Conditions and Regulatory Environment

The enterprises associated with ecosystem initiatives often face barriers outside of their immediate control. Difficult market conditions and tax and regulatory burdens are prominent examples. Local economies may be dominated by powerful elites who control local supply chains and discourage competition. The regulatory structure surrounding the ecosystem good or service the initiative manages may be complex and weighted in favor of larger producers or those with political influence. Taxes on ecosystem goods such as agricultural products may also be significant, boosting the costs of doing business. Assessing the significance of these barriers is necessary to determine how likely the initiative is to meet its financial goals.

Market Conditions

<i>Market status. How open are local, national and international markets?</i>	<ul style="list-style-type: none"> ■ <i>How high is overall demand for the good or service of interest? Is the market saturated?</i> ■ <i>Is the market dominated by one or a few producers or families (cartels)?</i> ■ <i>To what extent do price-fixing, sweetheart deals, or other anti-competitive practices affect the local market for the good or service? The national market? The international market?</i> ■ <i>How well have other small enterprises entering the market performed in light of these market conditions?</i>
<i>Government oversight. Does the government police the marketplace to ensure a "level playing field" for local businesses?</i>	<ul style="list-style-type: none"> ■ <i>Are laws mandating fair business practices in place?</i> ■ <i>Is there any oversight of local or national markets to ensure fair business practices?</i>

Regulatory Structure

<i>Is the resource regulated? Is the ecosystem good or service used by the initiative subject to local or state regulation?</i>	<ul style="list-style-type: none"> ■ <i>Is the management or extraction of the resource regulated?</i> ■ <i>Who regulates it?</i> ■ <i>Is a harvest or management permit or business license required?</i> <ul style="list-style-type: none"> – <i>How much does it cost?</i> – <i>How often must it be renewed?</i> – <i>Who sets the criteria?</i> ■ <i>Is a management plan required?</i> <ul style="list-style-type: none"> – <i>How much detail does it require?</i> – <i>How often must it be revised?</i> – <i>Who reviews and approves it?</i>
<i>Is the regulatory system fair? Do regulations or enforcement favor some enterprises over others?</i>	<ul style="list-style-type: none"> ■ <i>Are the criteria for obtaining a permit or license easy for small producers to meet?</i> ■ <i>Is the cost prohibitive?</i> ■ <i>Is the number of permits or licenses limited?</i> ■ <i>Do one or a few businesses dominate the permit system?</i> ■ <i>Is the required management plan simple enough for a small producer to draft without the help of outside consultants?</i> ■ <i>Is the permit granting office local or not?</i> ■ <i>How much is patronage a factor in the issuance of permits or the approval of management plans?</i> ■ <i>How much does corruption influence the issuance of permits or the approval of management plans?</i> ■ <i>How transparent is the process of regulation and enforcement?</i>

Diagnostic 3 Market Conditions and Regulatory Environment

Tax Structure

<p><i>What taxes are levied? What formal and informal taxes, fees or levies will the initiative face?</i></p>	<ul style="list-style-type: none"> ■ <i>Is the production, transport, or sale of the ecosystem product or service taxed?</i> ■ <i>What kind of tax is it (transport, value-added, inspection fee, etc)?</i> ■ <i>Who is the taxing authority?</i>
<p><i>Are taxes fair? Are taxes fairly applied or are some enterprises favored over others?</i></p>	<ul style="list-style-type: none"> ■ <i>Are large businesses taxed at an equal rate as small businesses?</i> ■ <i>Are small and large producers eligible for the same tax breaks or subsidies and subject to the same tax enforcement?</i> ■ <i>To what extent does corruption influence tax payment and enforcement?</i>
<p><i>What is their impact? Will taxes be a significant burden on the initiative or not?</i></p>	<ul style="list-style-type: none"> ■ <i>What is the total tax burden (the sum of all taxes levied)?</i> ■ <i>What percentage of gross receipts does this represent?</i> ■ <i>How much does the tax burden affect the initiative's financial viability?</i> ■ <i>Is there a mechanism to appeal a tax or pursue tax relief?</i>

Diagnostic 4 Finance Needs, Sources and Services

Adequate finance is central to building a viable ecosystem-based initiative. Initial steps include determining the finance needs of an initiative both in the critical start-up phase and over the longer term, and determining what finance sources exist to meet these needs and what their funding criteria and limitations are. Sound financial planning also includes an analysis of the sources of risk to the initiative, including market risks associated with volatile commodity prices, competition or changes in demand for the ecosystem service, as well as climate-related risk. Mitigating these risks through insurance or other strategies such as diversification is necessary to protect the initiative’s financial and social investments.

Assessing Finance Needs

<i>Estimating start-up costs. What will the initiative spend to begin its ecosystem management work and to survive during the initial phase?</i>	<ul style="list-style-type: none"> ■ <i>What infrastructure investments are required to initiate work?</i> ■ <i>What labor, training, or consultant costs are anticipated, e.g. for initial ecosystem management work or to structure the associated business enterprise?</i> ■ <i>What day-to-day expenses are anticipated to manage the initiative?</i>
<i>Estimating long-term costs and sustainability. What will the initiative need to cover recurring costs and to expand?</i>	<ul style="list-style-type: none"> ■ <i>What recurring costs for maintenance and for day-to-day management expenses are anticipated?</i> ■ <i>What annual labor costs can be expected?</i> ■ <i>What additional investments in infrastructure or business development are anticipated for years 2-5?</i>
<i>Estimating offsetting revenue. What will the initiative generate in revenue to offset these costs?</i>	<ul style="list-style-type: none"> ■ <i>Is any short-term revenue expected during Year 1 start-up?</i> ■ <i>What is the expected annual revenue stream for Years 2-5?</i>

Assessing Finance Sources

<i>Grants and direct support. What grants, in-kind services, or other forms of direct support are available to the initiative?</i>	<ul style="list-style-type: none"> ■ <i>Does the initiative qualify for funding or incentives under state or local programs for small business development, rural development, agricultural development or environmental restoration and conservation? What percentage of the initiative budget could be covered, under what terms, and for how long?</i> ■ <i>Does the initiative fall under international donor programs aimed at poverty reduction, community-based natural resource management, rural development, agricultural development or environmental stewardship? What percentage of the initiative budget could be covered, under what terms, and for how long?</i> ■ <i>Does the initiative fall under NGO-sponsored programs for integrated conservation and development, rural development, or environmental enterprise? What percentage of the initiative budget could be covered, under what terms, and for how long?</i>
<i>Conventional credit. Can the initiative qualify for a conventional bank loan at reasonable rates and terms?</i>	<ul style="list-style-type: none"> ■ <i>Do any commercial lenders serving the area have a significant portfolio of small business loans?</i> ■ <i>What are the credit requirements for loans, available loan amounts and interest rates and terms?</i>
<i>Microcredit. Is microcredit available to the initiative in sufficient amounts and with adequate terms and rates?</i>	<ul style="list-style-type: none"> ■ <i>What microcredit programs are available in the area?</i> ■ <i>Are they associated with local NGOs, backed by the state, or supported by international donors?</i> ■ <i>What are available loan amounts and terms?</i> ■ <i>Are available loan amounts sufficient to meet the initiative’s needs?</i>

Diagnostic 4 Finance Needs, Sources and Services

Assessing Finance Sources (*continued*)

<i>PES and other innovative sources. Are nonconventional finance sources available to the initiative?</i>	<ul style="list-style-type: none"> ■ <i>Would the initiative qualify under any existing Payment for Environmental Services program?</i> ■ <i>Is there evidence linking the outcomes of the initiative to climate adaptation?</i> ■ <i>How significant would these payments be in terms of the initiative's total budget?</i>
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Risk Management and Ancillary Finance Services

<i>Risk assessment. What sources of risk does the initiative face?</i>	<ul style="list-style-type: none"> ■ <i>What are the sources of natural risk?</i> <ul style="list-style-type: none"> – <i>What kind of natural disasters have affected the area in the past?</i> – <i>Does the area face climate-related risk? What kind?</i> ■ <i>What are the sources of human-caused risk?</i> <ul style="list-style-type: none"> – <i>Is illegal logging, animal or plant poaching, or other forms of resource theft a problem?</i> – <i>Is there armed conflict or other sources of social upheaval in the area?</i> ■ <i>What are the sources of business risk?</i> <ul style="list-style-type: none"> – <i>Does the initiative's enterprise concentrate on one or a few products?</i> – <i>Is the market for the initiative's goods or services volatile?</i> – <i>How much competition does the initiative face in its for-profit enterprises?</i>
<i>Risk mitigation. What products or strategies are available to the initiative to reduce its risk profile?</i>	<ul style="list-style-type: none"> ■ <i>Is insurance such as crop or drought insurance available for any known source of natural risk?</i> ■ <i>Is diversification of the initiative's enterprise activities an option?</i>
<i>Other financial services. What other business and financial services are available from the financial and insurance sector?</i>	<ul style="list-style-type: none"> ■ <i>Are financial planning and investment services available?</i> ■ <i>Are other ancillary services available, such as assistance with drawing up a business plan or financial training targeted to small enterprises?</i>

Diagnostic 5 Institutional Design and Governance

Initiatives are generally undertaken by groups of individuals in a community with common interests and circumstances. The institution that such a group organizes to carry out its undertaking can take many forms. It can be an informal group that acts by consensus with no hierarchy, a more formal assembly with elected representatives and an executive body, or any of a number of intermediate forms. This institution is generally the forum for group participation, and is often the repository for resource rights and the business and legal identity of the group. It may be the seat of all decision-making and financial management, or some of these functions may be delegated to a separate executive body. Often, the degree to which group members feel their voice is heard within the institution is an important factor in their willingness to participate in initiative activities. Thus, institutions that function along democratic lines tend to be more responsive to the group's needs and to promote the initiative's longevity.

Institutional Structure

<p><i>How is the institution structured?</i></p>	<ul style="list-style-type: none"> ■ <i>Is there a general assembly or council of the participants of the initiative?</i> <ul style="list-style-type: none"> – <i>Are all initiative participants members of the assembly?</i> – <i>What function does the general assembly play?</i> – <i>Does it have decision-making powers?</i> ■ <i>Is there an executive committee or board?</i> <ul style="list-style-type: none"> – <i>What are its functions?</i> <ul style="list-style-type: none"> • <i>Does it make day-to-day management and business decisions?</i> • <i>Does it control the budget?</i> – <i>How is membership on the executive body determined?</i> <ul style="list-style-type: none"> • <i>Through election by the general membership?</i> • <i>By appointment or other means?</i> ■ <i>Is there a leader or chief executive of the initiative?</i> <i>Is the leader self-appointed, appointed by a board or elected?</i> <i>What powers and duties does the leader have?</i> ■ <i>Are there any subcommittees within the general group, such as a technical committee or budget committee?</i> ■ <i>Do advisors or consultants from outside the group have any role?</i> ■ <i>What is the origin of the institutional structure?</i> <i>Chosen by the group itself?</i> <i>Determined by a group leader or subgroup within the larger group?</i> <i>Suggested by the state, a donor or other outside group?</i>
<p><i>Participation and decision-making. How do initiative members participate in the governance of the initiative?</i></p>	<ul style="list-style-type: none"> ■ <i>Are regular group meetings held?</i> <ul style="list-style-type: none"> – <i>Who convenes and runs the meeting?</i> – <i>Is group discussion and participation encouraged?</i> – <i>Are minutes taken?</i> ■ <i>Are decisions made by consensus, by majority vote or by a select group of decision-makers?</i> ■ <i>How are financial and budgetary decisions made?</i> ■ <i>How are decisions on benefit sharing made?</i> ■ <i>Do decisions by an executive body have to be approved by the general membership?</i>

Diagnostic 5 Institutional Design and Governance

Institutional Structure (continued)

<p><i>Relation to local government. To what extent does local government sanction, participate in or compete with the initiative?</i></p>	<ul style="list-style-type: none"> ■ Does the institution have a formal relationship with local government? <ul style="list-style-type: none"> – Is the initiative recognized by local government? – Is the initiative's land use or business regulated by local government? – Is the initiative affiliated with local government? <ul style="list-style-type: none"> • Is it under the direct control of local government officials? • Do representatives of local government sit on its board, or help formulate its business or land use plans? ■ Do the land use and business management powers exercised by the institution overlap with the governing powers of the local government? ■ Does the initiative receive any financial support or services from local government?
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Accountability and Transparency

<p><i>Accountability mechanisms. What mechanisms are available to hold officers and leaders accountable to the initiative's members?</i></p>	<ul style="list-style-type: none"> ■ Are there regular elections for officers, board members or other leadership positions? ■ Is there a mechanism for members to sanction (e.g., remove from office) someone in a leadership position? ■ Are accepted accounting standards followed for initiative receipts and expenditures? ■ Is an annual financial audit conducted? ■ Is there a mechanism for officers or board members to publicly respond to questions, complaints or other input from members?
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<p><i>Transparency mechanisms. What mechanisms are used to communicate with and inform the initiative's members about the initiative's business?</i></p>	<ul style="list-style-type: none"> ■ Does the executive committee report regularly to the general group? ■ Does it publish its minutes and make them public? ■ Is the initiative's budget made available to the general membership? ■ Are the results of financial or other audits made available to the general membership? ■ Is there a published annual report or regular newsletter that reports on the group's progress against its goals?
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Diagnostic 6 Local Capacity Needs

Many different capacities—technical, business, social, institutional and leadership—are necessary to manage the ecosystem for sustained benefits, and to distribute these benefits equitably among what may be a diverse group with sometimes competing needs. In most cases, at least some of these critical skills are missing at the inception of an initiative, making a solid capacity building program a necessary element of initiative success.

Technical Capacity

<i>Current skills inventory. What capacities do initiative members currently possess?</i>	<ul style="list-style-type: none"> ■ Are members literate? ■ What livelihood skills does each member of the group bring to the initiative? <ul style="list-style-type: none"> – Are these traditional skills and/or locally adapted ecosystem management practices? ■ Does any member have specialized technical skill or training?
<i>Ecosystem management capacity. Do initiative members have the skills they require to successfully manage the ecosystem to produce the desired benefits?</i>	<ul style="list-style-type: none"> ■ What specialized skills are necessary to sustainably manage the ecosystem, and harvest, process or provide the targeted ecosystem service? <ul style="list-style-type: none"> – What specialized planning skills (such as writing a forest management plan)? – What specialized monitoring skills? – What specialized harvest skills? – What specialized processing skills? ■ Do any members possess these skills or have experience with this kind of ecosystem management? ■ How do local or traditional knowledge or livelihood practices figure into the necessary skill set? ■ Can any members act as trainers or mentors to teach the necessary skills within the group? ■ Are examples available (e.g. from another community) of the necessary skills being applied in a similar activity that can act as a model or template for learning? ■ Are trainers or mentors from outside the community available to teach the necessary skill or provide learning opportunities?

Business Capacity

<i>Financial management. How well can the group handle money matters?</i>	<ul style="list-style-type: none"> ■ How large is the budget of the initiative and how complicated are the financial transactions and accounting required? ■ Do any members have basic accounting and budgeting skills commensurate with the complexity of the business? ■ Do any members have experience running a business of any kind?
<i>Planning. Can the group anticipate benefits and costs and articulate a business plan?</i>	<ul style="list-style-type: none"> ■ Have members identified start-up costs, long-term costs and expected revenue for the initiative's activities? ■ Does any member have experience writing a business plan that details specific plans and timelines for undertaking the initiative's activities, producing necessary revenue, and meeting expected costs?
<i>Marketing. Can the reach its customer base?</i>	<ul style="list-style-type: none"> ■ Has the initiative identified a potential customer base and identified a strategy to market to them? ■ Does any member have specific experience in sales or marketing?

Diagnostic 6 Local Capacity Needs

Social Capacity

<p><i>Group dynamics. How well do initiative members interact, communicate and negotiate?</i></p>	<ul style="list-style-type: none"> ■ What factions, castes or other well-defined social divisions exist within the group? ■ Can initiative members meet and communicate productively in a public forum in spite of group divisions? <ul style="list-style-type: none"> – Does the group need outside facilitation to meet, communicate and negotiate competing visions or demands?
<p><i>Collective action. How well does the group work together to achieve common goals or discharge joint responsibilities?</i></p>	<ul style="list-style-type: none"> ■ Does a modicum of trust exist within the group that can be the basis for a shared effort or joint undertaking? ■ Do group members have a history of working together on joint projects?
<p><i>Dispute resolution. How does the group handle internal disputes or disputes with other groups or government agencies?</i></p>	<ul style="list-style-type: none"> ■ Is there a traditional dispute resolution mechanism that is accepted by the group? ■ Has the group adopted a formal mechanism to resolve disputes within its ranks? ■ In the event of an external dispute, is the group confident enough to press its demands or seek redress from government agencies?

Leadership and Institutional Capacity

<p><i>Leadership and executive ability. Can the institution make the decisions necessary to lead the group and manage the initiative?</i></p>	<ul style="list-style-type: none"> ■ Can the group's leadership articulate a vision of success that motivates members to agree on a course of collective action and compels compliance with the group's rules? ■ Are decisions on important matters made in a timely fashion? ■ Are the decisions understood and respected by initiative members?
<p><i>Ability to conduct group processes. Can the institution convene the group effectively?</i></p>	<ul style="list-style-type: none"> ■ Can the institution bring the group together in a manner that engenders participation from all members? ■ Are members satisfied that their voice is heard?

Diagnostic 7 Support Services

Ecosystem initiatives are rarely self-sufficient in every regard. They typically have many needs—for business services, technical help, or facilitation for group processes—that they cannot provide for themselves, at least not in the beginning. Finding competent groups that can provide these services is very important to getting the initiative off the ground and to maintaining momentum once the initial steps are taken. The first task is an assessment of the initiative's service needs. This assessment draws on the information gathered in Diagnostic 6 (Local Capacity). Those skills not within the group's current competency must either be developed through training (capacity development) or provided by an external service provider. In evaluating support services, it is also essential to determine if the involvement of an intermediary support organization (ISO) would be helpful. An ISO can frequently play a useful coordinating role in terms of providing capacity development and other services to fledgling initiatives.

Assessing Service Needs

<p><i>Capacity deficits. What skills not possessed by initiative members are needed to accomplish the initiative's goals?</i></p>	<ul style="list-style-type: none"> ■ <i>What skills related to resource assessment and ecosystem management are needed by the initiative and not within its current competency?</i> ■ <i>What business or financial management skills are needed that are not within the group's current competency?</i> ■ <i>What group or social skills does the group need help in developing?</i> ■ <i>Does the group need an outside party to facilitate group processes or guide organizational development?</i> ■ <i>What leadership skills are needed that are not present within the group currently?</i>
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Assessing Support Service Opportunities and Providers

<p><i>Capacity development. What support service needs can be met by the initiative itself after appropriate capacity development?</i></p>	<ul style="list-style-type: none"> ■ <i>Of the capacity deficits identified, which can reasonably be addressed through training, on-the-job experience, mentoring or group processes, and which cannot?</i> ■ <i>What local or nonlocal organizations are available to facilitate technical, business, social, organizational or leadership capacity development for the initiative?</i> ■ <i>Is there a source of funding for capacity development activities such as coursework, field training, apprenticeships, secondments or group facilitation?</i>
<p><i>Support service delivery. What support services need to be provided by others?</i></p>	<ul style="list-style-type: none"> ■ <i>Of the capacity deficits identified, which are not likely to be addressed through capacity development and should be left to outside service providers?</i> ■ <i>Which services need to be provided on an interim basis (for instance, until the group can perform the service itself), and which on a permanent basis?</i> ■ <i>Which local or nonlocal providers are available to render these services?</i> ■ <i>Can the qualifications of these service providers be verified?</i> ■ <i>Is there an identified funding source to bankroll such services?</i> ■ <i>How will the performance of the service providers be assessed?</i> ■ <i>Are any necessary services unable to be provided by an appropriate provider?</i>
<p><i>Intermediary Support Organizations (ISOs). Are ISOs available to provide integrated training and services or to coordinate support service provision?</i></p>	<ul style="list-style-type: none"> ■ <i>Is a competent ISO active in the area of the initiative?</i> ■ <i>Can the ISO align the initiative with capacity development opportunities or appropriate service providers?</i> ■ <i>Is there an identified funding source to pay for the involvement of the ISO?</i>

Diagnostic 8 Networks and Linkages

Initiatives that remain insular cannot succeed. To maximize market access and learning, minimize costs and pool risks initiatives need to join together in networks and establish linkages with other organizations. Horizontal linkages—through business and producer associations and learning networks—enable sharing and cooperation among similar organizations. Vertical linkages—through personal contacts and advocacy—allow initiatives to communicate with and influence funders and those in government who are in a position to help or hinder the initiative. Both kinds of connections are important to culture.

Formal Associations

<p><i>Governance and inclusiveness of the association. Who belongs to the association and how is it governed?</i></p>	<ul style="list-style-type: none"> ■ <i>How many members does the association have and what are the qualifications for membership?</i> ■ <i>How inclusive is the membership?</i> ■ <i>What is the governance structure of the association?</i> ■ <i>Is the association (or its executive) dominated by one or more members of the group?</i> ■ <i>Is there any political interference in the governance of the association by the state or other parties?</i>
<p><i>Benefits and costs. What technical, financial and social benefits does the association offer and what are the associated costs?</i></p>	<ul style="list-style-type: none"> ■ <i>What technical benefits does the association offer?</i> <ul style="list-style-type: none"> – <i>Does the association give access to technology the initiative could not access on its own?</i> – <i>Does the association offer useful technical training?</i> ■ <i>What are the financial benefits?</i> <ul style="list-style-type: none"> – <i>Will membership in the association bring reduced costs through shared expenses for equipment, processing or transportation?</i> – <i>Will association membership bring better market access?</i> – <i>Are business training or services (e.g. accounting) available through the group?</i> ■ <i>What are the social benefits?</i> <ul style="list-style-type: none"> – <i>Does association membership bring greater social acceptance to the initiative or its members?</i> – <i>Does association membership make it easier to participate in joint efforts, such as experimental programs or field trials, that individual members would not undertake by themselves?</i> ■ <i>What are the political benefits?</i> <ul style="list-style-type: none"> – <i>Does the initiative gain greater visibility or can it more easily advocate for its interests by being part of the association?</i> ■ <i>What are the costs—in money and time—for association membership?</i> <ul style="list-style-type: none"> – <i>What is the budget of the association and how does it cover its costs?</i> – <i>Do members pay a set fee for membership or are expenses shared on an ad hoc basis?</i> – <i>Do members contribute service hours to association activities?</i> – <i>Does the association receive financial support from any outside groups or from the government?</i>

continued next page

Diagnostic 8 Networks and Linkages

Learning Networks

<p><i>Availability and access. What kinds of learning networks are available to the initiative?</i></p>	<ul style="list-style-type: none"> ■ Are relevant learning networks already established to which the initiative can join? ■ What form does the learning exchange or sharing take? ■ Are network members local? national? international? ■ What medium do these networks utilize? <ul style="list-style-type: none"> – If web or email, is initiative able to access them? – If direct contact (e.g. through site visits), can initiative members afford to travel? ■ Is there a network facilitator or host? Who? ■ How is the network funded? <ul style="list-style-type: none"> – Does the network have a sponsor? – Does the network have a connection to government?
<p><i>Openness. How effective and open is information exchange in the network?</i></p>	<ul style="list-style-type: none"> ■ Is there a mechanism for capturing and sharing lessons learned? ■ Are exchanges public or private? ■ Can lessons or information be shared outside the group?

Linkages

<p><i>Political linkages. What contacts does the initiative have at the various levels of government?</i></p>	<ul style="list-style-type: none"> ■ Does the initiative have contacts within government ministries relevant to natural resource management that can advocate its interests or help it address bureaucratic obstacles? What about contacts within local government? ■ Does the local representative of the national legislature know of and support the initiative?
<p><i>Donor linkages. What is the initiative's relationship with international donors?</i></p>	<ul style="list-style-type: none"> ■ Does the initiative have direct contact with international donors or development agencies? ■ Has the initiative been profiled, recognized or awarded by a donor or development agency?

Key Resources

The following websites provide general and specialized sources of information, tools and case materials that touch on nearly every aspect of local ecosystem-based initiatives.

CARE Community-Based Adaptation Toolkit. An interactive digital toolkit that acts as a “how-to” guide for practitioners implementing community-based adaptation projects, including links to useful resources and checklists.

www.careclimatechange.org/tk/cba/en/

Communities, Conservation and Markets. Strategies, tools and knowledge networks that integrate sustainable agriculture and land management with conservation of biodiversity and ecosystem services.

www.ccmproject.org/

Community-Based Adaptation Exchange. Platform for knowledge-sharing and learning about community-based climate adaptation, including news, case studies, and tools.

<http://community.eldis.org/cbax/>

Community-Based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL). A tool designed to help project managers integrate climate change adaptation and risk reduction into community-level projects.

www.cristaltool.org/

EcoEnterprises Fund. A fund supporting environmentally and socially sustainable businesses in Latin America and the Caribbean.

www.ecoenterprisesfund.com/

Ecosystems and Human Well-Being: A Manual for Assessment Practitioners. Approaches, tools and case studies of best practices for undertaking integrated ecosystem assessments, based on the methods of the Millennium Ecosystem Assessment and associated sub-global (local and regional) assessments, as well as other related assessment processes.

www.unep-wcmc.org/ecosystems-and-human-wellbeing_553.html

Equator Initiative. Prize-winning examples of community efforts to reduce poverty through ecosystem-based initiatives; also a platform for knowledge-sharing among such local initiatives.

www.equatorinitiative.org/index.php

EnterpriseWorks/VITA. Examples of programs that are helping small producers and other entrepreneurs build sustainable businesses.

www.enterpriseworks.org/

Forest Trends. Provides information and analysis on ecosystem service markets and payment for ecosystem services (PES) approaches and mechanisms.

www.forest-trends.org/

GEF Small Grants Programme. Information on grants to non-governmental and community-based organizations in developing countries for sustainable development.

<http://sgp.undp.org/index.cfm>

International Institute for Environment and Development. Research and policy analysis on local organizations, participation, land tenure, nature-based enterprise, and other topics relevant to local ecosystem-based initiatives.

www.iied.org/

Microfinance Gateway. Online resource for global microfinance community, including organization profiles and articles.

www.microfinancegateway.org/p/site/m/home/

microLINKS (U.S. Agency for International Development). Information portal on micro-enterprise development research and practice.

www.microlinks.org/

Rural Finance Learning Centre. Online resource for research and training materials on rural finance.

www.ruralfinance.org/

Rural Poverty Report 2010, Background Papers (International Fund for Agricultural Development). Analysis of natural resource access, enterprise development and markets in relation to rural poverty alleviation.

www.ifad.org/rural/rpr2010/

SEED Initiative. Supports and profiles locally-driven start-up enterprises based on sustainable ecosystem management.

www.seedinit.org/

Small Enterprise Education and Promotion (SEEP) Network. Online learning platform offering small enterprise tools, training materials, and a forum for contacting and collaborating with other small enterprises.

www.seepnetwork.org/Pages/Default.aspx

Translinks. Case studies, research, tools, and skills exchange to support income growth of the poor through sustainable natural resource management.

www.translinks.org/Home/tabid/312/language/en-US/Default.aspx

Verde Ventures. Investment fund managed by Conservation International (CI) to provide support for small- and medium-sized businesses that contribute to healthy ecosystems and human well-being.

www.conservation.org/sites/verdeventures/

World Resources Institute. Research and policy analysis on mainstreaming ecosystem services, local organizations, participation, land tenure, nature-based enterprise, and other topics relevant to local ecosystem-based initiatives.

www.wri.org

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